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BUREAU OF LABOR STATISTICS
ETHELBERT STEWART, Commissioner

MONTHLY
LABOR REVIEW

Vol. 27, No. 4 October, 1928

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This Issue in Brief

Cooperation between unions and employers is taking place in many lines of activity. Some of the purposes for which mutual action is being undertaken include: Improvement of operating efficiency of the plant or of the industry, introduction of new methods or machinery or improvement of the old ones, reduction of operating costs by eliminating wastes, introducing economies, etc., improvement of the quality of work, increase of total production, raising the general level of sanitation and safety in the plant, and increasing the skill and efficiency of the workers. Page 1.

Retirement systems for police and firemen exist in most cities, and in addition to retirement allowances for members they usually include provision for the dependents of the members. Features of special interest are the dismissal allowances provided by the Cincinnati and the Cleveland systems, and the Detroit plan of fixing the retirement allowance at one-half the salary attached to the rank the retirant last held, and, if that salary is changed at any time thereafter, making a corresponding change in the allowance. Page 24.

The average entrance wage rate of common labor on July 1, 1928, was 44.9 cents per hour, according to the survey made by the Bureau of Labor Statistics. The highest average wage rate per hour for any industry, 57.2 cents, occurred in the automobile industry, followed by 47.4 cents in general contracting. The lowest average rate, 31.7 cents, was in the sawmill industry. The rates paid on July 1, 1928, were in general considerably higher than those prevailing at the beginning of the year. Page 95.

Earnings in the cotton-goods manufacturing industry were slightly lower in 1928 than in 1926, according to the biennial survey of that industry just completed by the bureau. In 1928 average hourly earnings for all employees were found to be 32.4 cents compared with 32.8 cents in 1926 and average full-time earnings per week in 1928 were $17.30 compared with $17.48 in 1926. Page 89.

An increase in the expenditures for new buildings in the first half of 1928 compared with the first half of 1927, is shown in the regular semiannual report of the Bureau of Labor Statistics on building permits in American cities. This is the first time since the first six months of 1925 that there has been an increase over the same period of the previous year. Page 108.

An upward trend in labor turnover in manufacturing industries has recently occurred. The average accession rate in August was 53.4 per cent (on an equivalent annual basis), which was higher than for many months. Also, the voluntary quit rate rose to 31.9 per cent, which was higher than in any other month since September, 1927. An increase in the voluntary quit rate usually indicates increased industrial activity. Page 53.

The American Indians as a race are very poor and they are not yet adjusted to the economic and social system of the dominant white civilization, according to the findings of a study made by the Institute for Government Research at the request of the Secretary of the Interior. It was found that almost one-fourth of the number studied had a reported per capita income from all sources of less than $100 a year, 71.4 per cent of less than $200, and only 2.2 per cent of $500 or more. Page 43.

The sledding method of harvesting cotton requires much less labor than either the picking or the snapping method. A study made by the United States Department of Agriculture, in Oklahoma and Texas, showed that in one of the Oklahoma districts the average number of hours of man labor required to harvest a 500-pound bale of cotton by sledding was 8.5, as compared with 43.6 by snapping, and 68.2 by picking; in Texas the average requirements were 5.3 hours for sledding, 33.7 for snapping, and 48.7 for picking. In the Oklahoma district for which figures are given, the cost of harvesting and ginning a bale of sledded cotton was $15.31, of snapped $27.43, and of picked $28.21; in Texas the cost was $12.39 for sledded, $23.84 for snapped, and $22.33 for picked cotton. Page 50.

The scarcity of skilled labor in Germany has become a serious problem in many branches of industry, and a conference to consider the situation was called by the provincial labor office of the Rhineland in May of this year. The remedial measures suggested at this conference, taken from a recent report of the American consul at Cologne, are noted on page 49.

Recreational activities for industrial workers are fostered on a national scale by the Italian Government. An organization known as the Opera Nazionale Dopolavoro, the latter word meaning "after work," was founded in 1919 and now has over 3,000 affiliated societies and more than half a million members. The activities of the organization cover a wide field—music, drama, adult education, excursions, sports, handicrafts, etc. Page 75.

The average monthly income of a working man's family in Peking was $7.57 (United States currency), according to a 1926–27 budgetary study by a Chinese sociologist. The average size of the families was 4.58 persons. Approximately one-third of the income was derived from the earnings of the wife, children, or members of the family other than the father. The average monthly expenditure for food was $5.30 per family, and the average monthly rental 56 cents. It is estimated that about 270,000 persons are living at about the same level as these families. Page 191.

The accident-prevention movement in Europe is much older than in the United States and the factory-inspection systems are well established and technically efficient. Therefore the discussion of this subject at the recent International Labor Conference was not concerned with "selling" the safety idea but was directed to the question whether the subject is one which lends itself to international uniformity of methods. Page 40.

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Cooperation of Trade-Unions With Employers

THERE are still elements in the organized labor movement which look with misgivings and suspicion upon any cooperation of labor with capital, on the theory that the two are unalterably opposed to one another fundamentally and can not possibly have any interest in common. In general, however, it may be said that during the past decade a gradual change has taken place in the attitude of, at least, the leaders of organized labor. While still militant in the sense that it will yield no portion of the advantages already gained, labor prefers peace to warfare in its relations with employers. This change of attitude is due partly to enlightened self-interest, to a very practical realization of the cost of strikes—not only in dollars and cents but in other tangible benefits—and partly to wider vision on the part of the leaders. Whereas formerly only the interests of the men were taken into account by the unions, now the interests of the industry are considered. A few unions are leading the way in practical accomplishments in cooperation with the management for the good of all concerned, and the idea is gradually gaining a more or less general acceptance, even though a still reluctant one in some quarters.

The idea of enlisting the cooperation of the workers on a general scale first appeared during the war, when the universal and wholehearted efforts of everyone were necessary in the production of war materials. Shop committees were established in a great many plants, though in many of these the trade-union was not a factor, nonunion as well as union plants having adopted the idea. The value of the voluntary cooperation of the employees and of their good will received widespread recognition.

Much of this spirit disappeared after the cessation of the war, due partly to the industrial depression, partly to the reaction from the war-time tension, and partly to the wave of antiunion and open-shop activities that swept over the country. In some cases, however, cooperative efforts continued, while what is probably the best-known of all cooperative schemes, the so-called "B. & O. plan," was inaugurated after the close of the war. It had been conceived much earlier but it was felt that war conditions might militate against the success of the plan and the putting into actual practice was therefore postponed.

The new spirit has manifested itself in different ways and along various lines. To-day there are instances in which unions and management are cooperating to improve the operating efficiency of the

plant or the industry; to introduce new methods or machinery or to improve the old ones; to reduce operating costs by eliminating wastes, introducing economies, etc.; to improve the quality of work produced; to bring up the total production; to raise the general level of sanitation and safety in the plant; and to increase the skill and efficiency of the workers. In these and other ways employers and workers are demonstrating what can be done when the welfare of the industry is the first concern.

It is not true, of course, that all that is being accomplished through cooperative effort is done for purely altruistic reasons. Each party expects to benefit by the cooperative arrangement. The employer expects greater returns through the increased economy of production, the greater output, the reduction of amount of imperfect work, etc. The union expects, by demonstrating the increased value of the services rendered by its members, to gain for them increases in wage rates. But the great accomplishment of union-management cooperation is the change of mental attitude thus brought about and the fact that the results are secured by mutual effort instead of by antagonism, through peace instead of war.

Attitude of Labor Leaders

AS EARLY as 1925, President William Green of the American Federation of Labor emphasized in an address the "fixed and irrevocable" interdependence of capital and labor, and expressed the opinion that complete success was "attainable only through understanding and cooperation." Although recognizing that there were many in the ranks both of capital and labor who were not in accord with him in the matter, he stated the general position of labor as follows:

> It is to these problems of industrial cooperation and understanding that modern trade-unionism is addressing itself. We do not believe our common problems are impossible of solution nor do we believe the obstacles to be met are insurmountable. As evidence of our faith we refuse to accept the oft-expounded theory that the differences between capital and labor, between employer and employees, are irreconcilable. * * * I do not mean by this that the time will come when there will be no controversy between employers and employees over what constitutes a just and equitable division of the wealth which their joint efforts create. Such a difference of opinion manifests itself in all forms of human activity where men barter, buy, and sell. Understanding and agreement upon this controversial subject can with few exceptions be reached through the process of collective bargaining. Particularly is this true where both sides approach consideration of the disputed question with patience, frankness, and a spirit of justice and fair dealing, as between man and man. * * *
>
> A spirit and purpose to follow the right and to do the right, to take no unfair advantage, to practice no trickery or deceit, to neither threaten nor coerce, should govern the representatives of employers and employees in all wage negotiations and conferences. Through such a reciprocal relationship the common problems of industry can be solved, efficiency in service promoted, and economies in production introduced. The practical operation of such a plan of understanding must necessarily be based upon the presumption that employers and employees are no longer inspired by hate, malice, and enmity toward each other. Instead, the antagonistic and hostile attitude, so characteristic of the old order in industry, must be supplanted by a friendly relationship and a sense of obligation and responsibility. This is the newer concept of modern trade-unionism.[1]

[1] American Federationist, April, 1925, pp. 226, 227.

And again, at labor's conference on the elimination of waste, held in May, 1927, he said:

> Time and experience have developed a new conception of the vital problems which affect industry. Our viewpoint and understanding of the effect of industrial processes upon the welfare of all associated with industry have undergone almost revolutionary change. We now find that the line of separation can not be drawn between any group or groups either interested in or connected with the producing forces of industry. There is no point which can be definitely fixed where the interest of one group begins or ends. The interests of all are so inextricably woven together as to preclude a diversion of effort or objective. One group can not permanently prosper at the expense of the other, nor is any one group immune from the evil consequences of uneconomic industrial operation. Industry is made profitable and the rewards of industrial efforts are increased in proportion to the cooperation established between employers, employees, and management.[2]

In a speech made during the course of a "management week" held in Philadelphia, Mr. James Maurer, president of the Pennsylvania State Federation of Labor, warned organized labor that it must adjust itself to new conditions, bearing in mind that "modern business is based upon scientific analysis."

> The old methods have passed; the engineer has arrived. Are we in close touch with the men who make intensive studies of business problems? Have we established research bureaus? Have we given thought to the economics of business? Do we concern ourselves with the cost or production of materials? Do we give thoughtful consideration to the facts obtaining in our various crafts?
>
> Modern business throughout its wide ramifications is a scientific problem and must be solved by the use of research and by analysis.
>
> The rule of trial and error will not bring results in modern business practice, and organized labor must adopt new methods and adapt itself to ever changing conditions.
>
> Sometimes demands are made upon management without critical analysis of the facts as to whether or not the industry can pay more wages and work fewer hours.
>
> The difficulties that ensue are often the cause of strikes and misunderstandings which are a clear waste—a waste that could be prevented if the human element were more clearly understood and were more carefully analyzed.[3]

The same thought was recently expressed by the Amalgamated Clothing Workers: "Where it has long held power and wishes to retain it, organized labor has begun to learn that it must accept an increasing measure of industrial responsibility; that it must adjust its economic policies to the needs of a changing industry; and that it must discard many restrictive practices that have proved in the long run more harmful than beneficial to its members."[4] This thought the union has carried into practice. While the union still regards itself as "a fighting army, an active participant in the industrial struggle," it finds itself becoming "more and more involved in the engineering of the industry."[5] According to one economist who has been a student of the needle trades, "the whole program of the Amalgamated is to extend its organization and then to improve the economics of the industry, which it constantly studies."[6]

The president of the Upholsterers' International Union stated in his report to the 1927 convention of that body: "I can not stress too

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[2] American Federationist, June, 1927, p. 729.
[3] International Molders' Journal, April, 1927, p. 217.
[4] Advance, Jan. 13, 1928.
[5] Advance, May 13, 1927, p. 7.
[6] The Nation, May 11, 1927, p. 524.

much or repeat too often that the policy of our international is one of peace and cooperation." [7]

Matthew Woll, fourth vice president of the American Federation of Labor and president of the International Photo-Engravers' Union, states:

> Within our own industry we have shown there is no room for conflict between employer and worker. Industrial conflict harms both. Both factors in industry benefit most when cooperating with one another to the highest degree. Our purpose is not to harm the employer and the industry. Our desire is to protect the employer and the industry. Not because we manifest any particular love for the employer but principally because the industry of photo-engraving is not the employer's alone but one in which we are as concerned as he.[8]

The International Ladies' Garment Workers and the Women's Clothing Manufacturers of Cleveland as early as 1921 reached the conclusion, which they embodied in their agreement, that: "Cooperation and mutual helpfulness are the basis of right and progressive industrial relations, and that intimidation and coercion have no proper place in American industry."

Other unions which may not have expressed themselves in words on the matter are nevertheless making practical application of cooperative principles, as will be shown. The present discussion makes no claims to inclusiveness, but merely presents instances of cooperation between unions and managements which have come to the attention of the Bureau of Labor Statistics.

Improvement in Operating Efficiency

PERHAPS the greatest amount of cooperative effort has been directed toward the improvement of operating efficiency, through such means as improved methods of work, reorganization of the system of distribution of work, transfers of workers, introduction of economies, and elimination of sources of waste. So great is the interest of organized labor in the question of reducing cost of production through the elimination of waste and unnecessary expense that a conference, sponsored by labor, was held in the spring of 1927 to consider the problem and its solution.

The most outstanding and best-known example of union-management cooperation for improved operation is that of the Baltimore & Ohio Railroad and its shop employees. There are, however, numerous other cases that are not so well known.

Baltimore & Ohio Plan

Union-management cooperation definitely developed in the railway industry during the existence of the United States Railroad Administration. At that time "the standard railroad labor unions were universally recognized as the exclusive agencies of the employees in their relations with the Federal Railroad Administration." Indeed, it was proposed to the director general by practically all of the recognized railroad unions that a cooperative program be arranged between the railway unions and the managements for the improvement of public service for mutual benefit.

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[7] Reports and proceedings of the fifteenth biennial convention of the Upholsterers' International Union of North America, New York, 1927, p. 13.

[8] The American Photo-Engraver, January, 1927, p. 101.

Some steps were actually taken toward carrying out this proposal. The problem of transferring the railroads to private control, however, crowded out this program of cooperation. The period from the Government's relinquishment of the railroads up to the end of the shopmen's strike of 1922 was a trying one for both the railroads and their employees, but long before the 1922 strike railway managements were approached by the standard shopmen's union with an offer of cooperation.

In the spring of 1922, Daniel Willard, president of the Baltimore & Ohio Railroad, agreed that "the consummation of an understanding along cooperative lines between management and the standard shopcraft unions of the Baltimore & Ohio was a feasible matter and deserved careful trial." The scheme, however, was delayed because of the shopmen's strike and was not started until February, 1923, after the employees at a mass meeting had expressed their willingness to enter whole-heartedly on this experiment.

The scheme was intended (1) to provide for "the utilization of the facilities of the railroad company to the fullest possible extent for the maintenance, rebuilding, and remodeling of locomotives and car equipment, as well as for the manufacture of supplies and material needed for mechanical and other purposes"; and (2) "to help the stabilization of employment on the Baltimore & Ohio Railroad, thereby producing a situation of satisfied and contented personnel with improved morale, and consequently improvement in the service and production by greater efficiency and better quality of work."

The plan was inaugurated in the shop where conditions were most adverse—the repair shop at Pittsburgh. The men employed were of many nationalities and had always been more or less dissatisfied; employment was not always steady; and bitterness had been engendered between the old and the new men during the course of the strike.

The experiment was tried out at this shop for nearly a year but the results were unsatisfactory and the shop was closed. Later, when some of the grievances and misunderstandings had been cleared up, the same shop was opened again and this time, with the same tools, the same wages, and the same working conditions, the plan was successful. Mr. Willard states: "I have tried to analyze it, and it seemed to me that the only thing that had happened was a change in the attitude of the men and of the management; there had been brought about a different state of mind, and, after all, as I look at it, that is about the essence of the whole movement. We have, I believe, succeeded in bringing about a different point of view between our managers and our men."

It was understood that the benefits derived from the new plan were to be shared with the men. The management promised to do all in its power to stabilize employment, provided the men would contribute to raising the morale of the shop. Mr. Beyer, the engineer who first conceived the plan and has supervised its working, states:

> To this they readily agreed. And the management, in keeping with its promise, sent a new line of work to Pittsburgh in the form of cars and locomotives to be rebuilt, in order to help stabilize employment. The men appreciated this action, for it gave tangible significance to the cooperative idea. The first locomotive, No. 1003, turned out under this program of "Baltimore & Ohio work in Baltimore & Ohio shops" thus became a monument to cooperation. Here was living evidence of how cooperation was helping the men to steadier jobs and hence greater wage income.

The men "became very active in observing opportunities for improvements, working out practical suggestions and presenting them at their local union meetings and to their representatives for submission to the shop management." A committee system was developed, a committee of the men meeting with representatives of the management, at first irregularly, but later at stated intervals. It was soon decided to keep written records of subjects discussed and action taken.

After the scheme had been in operation for six months it was formally ratified by a convention of the shopmen of the railroad, and its inauguration at each of the 45 shops of the system was provided for by agreement with the railroad in February, 1924.

The plan is now in operation not only in all the shops of the Baltimore & Ohio Railroad but has also been adopted on three other railroad systems—The Canadian National Railways, the Chicago & North Western Railway Co., and the Chicago, Milwaukee & St. Paul Railway Co.

Essentials of the plan.—Under the scheme each shop has its own machinery and its work is reviewed every three months by a "joint system cooperative committee" which meets also for the purpose of considering and acting upon propositions applicable to the road as a whole. No grievances are considered at either local or joint meetings.

The essentials to the success of the scheme are listed by Mr. Beyer as follows:

1. Full and cordial recognition of the standard labor unions as the properly accredited organizations of the employees.
2. Acceptance by the management of these unions as helpful, necessary, and constructive in the conduct of industry.
3. Development between unions and managements of written agreements governing wages, working conditions, and the prompt and orderly adjustment of disputes.
4. Systematic cooperation between unions and managements for improved service, increased efficiency, and the elimination of waste.
5. Willingness on the part of managements to help the unions solve some of their problems in return for the constructive help rendered by the unions in the solution of some of managements' problems.
6. Stabilization of employment.
7. Measuring and sharing the gains of cooperation.
8. Provision of definite joint union and management machinery to promote and maintain cooperative effort.

The sixth and seventh requirements, namely, stabilization of employment and sharing the gains of cooperation, are reasons why the employees through their unions are warranted whole-heartedly in supporting the cooperative policy. Even should a railroad or industrial plant be run better from either the public's or management's point of view, the union employee's interest in cooperation will not endure if he does not himself get direct and tangible benefits from cooperation. These benefits must take the form, first, of steady employment; second, better working conditions; third, greater yearly wage income; and fourth, better wage rates. Above all else the workers in industry must be assured that management will do everything within its power to stabilize employment; for obviously, if, as a result of greater efficiency they are apt to work themselves out of a job, they will soon lose any enthusiasm they might otherwise have had for cooperation.

Results of the plan.—In the shops of the Baltimore & Ohio road some 18,000 suggestions have been brought forward by the men for consideration. Of that number 15,000 (83 per cent) have been accepted, 500 are still under investigation, 500 are regarded as good but too expensive to adopt, and 1,600 have been rejected as impracticable.

The management makes a special effort to see merit in the suggestions wherever possible, but Mr. Willard points out that rejections do not result in bad feeling:

> A lot of the 1,600 men, perhaps, had ideas in their minds that they thought were practical; they found the company was not following those ideas and they thought the company was inefficient because it didn't do 1,600 things that they thought ought to be done. After a full discussion they themselves discovered that those 1,600 things were impracticable, and to the extent that that had seemed to reflect inefficiency on the part of the management they were cleaned up, and that led to a better understanding.

About one-third of the suggestions do not benefit the carrier directly but deal with conditions that the men desire to see improved.

The scope of the scheme has been enlarged so that it includes not only the shopmen but also practically all the men in the service of the road.

The plan has, according to Mr. Beyer, resulted in the following benefits to the men:

1. Reduction in grievances—i. e., fairer application of working rules. It is estimated that the number of grievances has been reduced approximately 75 per cent since the inauguration of the cooperative plan. In the year preceding the adoption of the plan there was one case of grievance appeal for every 58 men; in 1925, one case for every 131 men; and in 1926 the number was still further reduced.
2. Quicker adjustment of grievances.
3. Improvements in apprentice training.
4. Better working conditions.
5. Better tools and methods for doing work.
6. Higher standards of workmanship.
7. Stabilization of employment. From 1924 to 1925 the period of employment of shopmen on the Baltimore & Ohio was increased on an average two weeks. This is equivalent to an increase of $44 per year for each man or 2¼ cents per hour. On the Canadian National Railways similar progress has been made, while the Chicago & North Western road, by virtue of the more systematic distribution of work throughout the year plus the policy of doing railroad work in railroad shops, has been able to tide over several declines in traffic without reductions in staff.
8. Financial participation in the gains of cooperation.

Among the advantages accruing to the management are listed the following:

1. Better shop discipline.
2. Reduced labor turnover.
3. Improvements in employee training.
4. Better grade of employees secured.
5. Conservation of materials.
6. Reduction of defects and failures.
7. Better workmanship.
8. Increased output.
9. New business.
10. Better morale.
11. Improved public good will. "It has become more and more evident that the reputation enjoyed by railroads in respect to their ability to get along well with their employees and secure their sys-

tematic cooperation for good service has been a big feature in promoting the sympathy and interest of the public toward such railroads."

The general results are summed up by President Willard as having been "eminently satisfactory up to date."

Printing Trades

One of the most significant instances along this line is the newspaper engineering service of the International Printing Pressmen and Assistants' Union. This service was started, according to the vice president of the union, because whenever wage increases were requested "the employers would counter with the impossibility of their industry being able to pay more money because of the high cost of production."

> And it was then up to us to show them that if they were more scientific in their attention to their own industries they would not have to worry so much about costs of labor. We knew from actual experience that thousands of dollars were being carelessly thrown away simply because the print shop never had the attention it should have received and things were done in a haphazard, untechnical manner.[9]

So the union in 1924 undertook to direct the attention of the employer to ways in which savings might be effected and quality of work and production might be increased.

Some 500 newspapers from all parts of the country are received daily at the union headquarters. These are examined for any defects of appearance or workmanship over a period of several days or a week. If the defect continues to appear, a letter is written to the foreman, pointing out the defect and suggesting ways of overcoming it. Where necessary an engineering expert is sent to the plant. He makes a careful study of conditions in the pressroom. If the defect is due to the work of some other department the matter is taken up with the publisher, the engineer going from department to department until the cause is located and corrected. The service also offers personal assistance, when new plants are being opened, in the proper construction and layout of the plant, even providing blue prints. It will also supervise the installation of equipment and the overhauling of old machinery, constantly taking into consideration the newspaper's need for speed and the necessity of continuing publication while the changes are being made.

All this is done without cost to the publisher, the union bearing all the expense. At first the union's new service was regarded with some suspicion. Gradually, however, it has won the cordial acceptance of both the publishers and the other newspaper printing trades, so that to-day its services are voluntarily sought when troubles develop.

Letters of appreciation from publishers and foremen testify to the effectiveness of the service. Through it many thousands of dollars are saved each year.

In furnishing this service, every care is taken to preserve absolute impartiality in locating any defects. "We, to be successful, must tell the truth."

> There is no discrimination or partiality. If the facts establish the responsibility for the defects on the men, on the machinery, on the paper, on the ink, on the

[9] American Federationist, June, 1927, p. 676.

blankets, or metal or upon any other phase of printing, this newspaper engineering service says so and joins with all concerned in improving the existing condition.[10]

If it is the pressmen's fault it is just as important to say so and to apply the remedy as it is to say it is the metal's fault and make recommendations. Of course, it means infinitely more to us to say frankly this is our own fault and we are now applying the remedy, than to simply recommend and point out the defects of others, but we propose to do both. That we have succeeded is best testified to by * * * letters from publishers and heads of mechanical departments of newspapers.[11]

Upholstery Industry

The Upholsterers' International Union is firmly committed to the cooperative policy. Its president states: "The foundation of every successful labor union rests upon its powers for cooperation. It has been the experience of our membership that the greater the scope of our cooperating activities the greater the achievements we have been able to attain."

It is explained that the union was forced into its concern for the industry. "We were concerned over the fact that no one seemed to worry very much whether the looms were in running order or not. * * * The boss did not seem to care about these matters. But the weaver at the loom, when things went wrong through no fault of his own, did worry." It meant lost time and lost earnings to him. Because of the small shops and the close personal relation between men and employer (it is said that the latter is always known to his employees by his first name), defects would be pointed out by the men to the employer. "Well, he'd wag his head and figure out that it would cost $600 and he couldn't afford it. But I would show him that 60 times $600 is being lost annually because the mill is forced into involuntary idleness." Gradually the boss would begin to rely upon the workers to bring such things to his attention. Later as the union grew stronger it began to take over this function and "is to-day solving many of the problems of shop efficiency through its own committees and through its own methods of handling apprentices." And, furthermore, in one local, "one of the union's most important committees every season goes to a class organized by itself, under the auspices of the labor college of Philadelphia, to study the economics of its industry and how to meet its problems in a scientific manner." [12]

New workers in the shop are shown the best methods of work, as the union feels "responsible for the workmanship and efficiency of all our men and women members of the upholstery union. So we can not afford to have anyone in our midst who either does not understand our standards or who does not desire to maintain them."

An incident is related about an employer who moved his factory in order to be able to employ nonunion labor. But the results did not prove so successful as he had hoped. "Even at wages paid to unorganized workers he could not make the thing work." When approached by the union after some time he agreed to allow the mill to be unionized, but protested he could not increase wages, as his cost per unit of production was already too high. He did, however, agree that he would sign a contract with the union if it could, in six months' time, show improved morale and productivity. A union

[10] Pamphlet on newspaper engineering service, issued by International Printing Pressmen and Assistants' Union, p. 5.
[11] Report of officers to thirty-first convention of International Printing Pressmen and Assistants' Union, 1927, p. 116.
[12] American Federationist, June, 1927, p. 680.

representative was placed in the factory as manager, and in a month production had been doubled. "To-day the factory is being operated under union conditions with a union man at the head." [13]

Carpet-Weaving Industry

A rather unusual measure was resorted to by the tapestry carpet weavers' union in one shop. The girls in the finishing room became dissatisfied because they were not earning as much as girls doing similar work in other shops; on the other hand, the employer complained of the quality of their work. The union was called into conference and asked for suggestions as to what could be done. The measure adopted was the exchange of the finishing-room personnel of this factory with that of another plant. "Of course, it required a bit of diplomatic handling to effect the transfers. Both firms were promised that the changes were for a time only and their own workers would be sent back as soon as the difficulties were remedied. The firm which was having the trouble did not care much what was done just so the work would be done correctly, and the other firm had so much confidence in the union that it was not hard to get their permission to make the change required."

The main thing to be accomplished was to effect a change in the mental attitude of the girls in the first shop, as they had become convinced that, do what they might, it was not possible to earn a living wage in that shop. The girls transferred to this shop from the cooperating plant found no difficulty with the work and soon had the shop running smoothly. As it was demonstrated to the original workers that the difficulty lay with them, the new girls were returned to their own shop one by one, while the old workers as they returned were taught new and more efficient methods. "Since then the girls earn as much as they could anywhere else." [14]

Cloth Hat and Cap Industry

The collective agreement between employers and union in the New York market of the cloth hat, cap, and millinery industry provides that a worker indispensable to the factory must notify the union if he intends to quit his job, and may not leave until the union can replace him with some other worker. "The union pledges strict enforcement of this provision."

Glass Industry

The leaders of the more progressive unions realize that the organizations which retain their strength and make progress are those which adapt themselves to changing conditions and help their members to do so.

Thus, unions in trades in which swift and radical changes have been made by the introduction of machinery have found it better to adapt themselves to the changed circumstances than to attempt to oppose the inevitable. Such a situation in an extreme degree has had to be met in the glass-bottle industry. Until 1898 there was practically no machinery in use in the industry. After that time the trade rapidly became mechanized. The union did not attempt to stop the invasion of the machine, but requested that some of the hand men displaced be given a chance to learn to operate the machines.

[13] American Federationist, June,, 1927, p. 681. [14] Idem, p. 682.

It agreed to a reduction in wages of 45 per cent, "to give the employers who did not have machines an opportunity to adjust themselves to the changed conditions and keep the hand workers employed." Gradually the union extended its jurisdiction to cover the hand workers and then it induced the manufacturers not to take on any apprentices for a year and to give the displaced workers any positions open.

Thus gradually the displaced men were absorbed into the industry again.

The union then advocated continuous operation, with a three-shift system, and, later, the employment of three men to every two machines, instead of a man to each machine. Because of the trying nature of the work the operator had to rest 10 or 15 minutes in every hour, during which time his machine was stopped. By using three men, the worker could rest 20 minutes in every hour, but continuous operation of the machine was secured. Although both men and employers opposed this at first, trial demonstrated that more ware was produced and the men earned as much as before, the work being on a piece-rate basis.

We met displacement of our skilled men first by using every means at our command to have the displaced man put on to operate the machine; second, by reducing the cost of production to the hand manufacturer to bring it nearer to that of the machine; third, by dividing the work with the idle men so that they might be self-sustaining, self-respecting members of society and consumers of the things produced.[15]

Clothing Industry

Another union in quite a different field which has been quick to perceive and adapt itself to changing conditions is the Amalgamated Clothing Workers.

The union realized from the outset that it could not close its eyes to technical improvements and retain its power and influence. Directly and indirectly it participated in the technical revolution which the industry has undergone since 1920. Union control and policy reduced to a minimum the hardship that always attends the introduction of machinery and the change in industrial processes. * * * Without those technical advances, gains in efficiency, the industry would have been unable to weather the business strains of the past years. This the union knew. It adopted, therefore, a policy which did not hinder but controlled, in the interests of its members, the introduction of machinery which is so characteristic of contemporary American industry.[16]

The Amalgamated Clothing Workers has been active in trying to reduce unnecessary costs in the industry and thus decrease the overhead expense. "The union's position has constantly been that much of the reduction in the price of clothes must come from savings arising out of the elimination of waste." To this end it has participated with the manufacturers in both the Cincinnati and the New York markets in investigations to discover sources of waste, always insisting that "unnecessary overhead, exorbitantly high salaries, undue selling expenses, excessive cost of supervision, unnecessary clerical expense, must be found and reduced. The savings from these sources have in the past few years been enormous."

In a recent address President Hillman made the following statement:

The labor cost in our industry has gone up much less than that in any other industry. By working out our problems with the employers we have produced efficient methods of work. While we can point to over 300 per cent increase

[15] American Federationist, September, 1927, p. 1057.

[16] Advance, Mar. 25, 1927, p. 5.

in wages since the beginning of the organization, there has been less than 80 per cent increase in labor cost. I can say that there is no important change in the manufacturing process in the shop for which the union is not at least 50 per cent responsible.[17]

Street Railways

On the Pittsburgh street railways the monthly meetings of union and management representatives deal with "the entire range of railway operation * * * the welfare of the whole industry being of principal concern." The interests of the traveling public "also receive a large share of attention."

Suggestions for the improvement of service are invited and "no suggestion is ignored, for while they might not all be acceptable as made, they very often lead to other desirable methods whereby a great deal of good is accomplished."

Transportation is a competitive business. The trainmen are the sales agents, and they aim to make the car ride as attractive as possible. By so doing, the public benefits, the company profits, and the employees, by contributing to the success of the company, earn that recognition of their efforts that must eventually bring them their reward as the profits of the employing company will permit.[18]

Railroads

The Order of Sleeping Car Conductors states that it was one of the first labor organizations "to outline specifically a plan of cooperation, and present it to the employer." Although not receiving much encouragement from the employing company, the union recognizes that the best interests of the men are served by making their service "indispensable and profitable to the employer." This feeling is being manifested in the movement, sponsored by the union, for "scientific conductor supervision of service," the purpose of which is to improve productive efficiency. A series of articles is being printed in the official journal of the order, pointing out the importance to the individual conductor of making himself indispensable in his position, and showing how this can be done.

Shop Sanitation and Safety

Women's Garment Industry

THE outstanding example of cooperation between employers and union for the raising of the sanitary and safety standards in the industry is the joint board of sanitary control in the women's garment industry of New York City. This board was set up in 1910 and has been the greatest factor in raising the level of sanitation in the shops. It drew up a set of sanitary standards to which all shops under its jurisdiction were required to conform, and by means of periodic inspections saw to it that this was done. It has helped to establish first-aid services, fire drills, published bulletins on general health questions, etc. Although the "protocol" under which the board was established was abrogated in 1916, the employers and the International Ladies' Garment Workers' Union have continued to cooperate on this board even during times of strike or lockout. So satisfactory were the results of its work that a similar board has been set up in the industry in Rochester.

[17] Advance, Jan. 13, 1928, p. 5.

[18] Horseshoer's Magazine, December, 1927, p. 10.

Pocketbook Industry

The same machinery has been accepted in the pocketbook industry, and the agreement in the industry in New York, running until May 1, 1929, provides for the establishment of a joint board of sanitary control, but no steps have as yet been taken to put this provision into actual effect.

Railroads

As a result of a request from the superintendent of safety on one of the large railroads, the Brotherhood of Maintenance of Way Employees has been encouraging its locals to cooperate with the carrier in the attempt to reduce a cidents. A circular was sent out to the lodges and to the individual members and a series of meetings was held at the locals connected with the road. It is hoped that accidents will be materially reduced by securing the whole-hearted cooperation of the men.[19]

Street Railways

Similar cooperation in safety work is reported by the Amalgamated Association of Street and Electric Railway Employees as being carried on by the street-railway companies and local unions in St. Louis, Pittsburgh, and "on various other transportation properties."[20]

Production and Quality of Work

Clothing Industry

IN ITS 1920 convention the Amalgamated Clothing Workers adopted by a large majority the policy of favoring production standards. Not only has the union favored a standard of output; it has also cooperated with the employer in raising the quality of the product. The A. Nash Co. of Cincinnati became unionized in 1925. It had had "such a phenomenal growth" that the company was having difficulty in keeping the quality of the product up to the standard which it desired. Apprised of the situation, the union took steps to meet it. The president of the company, in an article published in the fall of 1927, stated that "the Amalgamated brought experts from various markets and have rendered a service which can never be figured in dollars and cents in raising to a high quality and standardizing the production of this company." [21]

Production standards were adopted in the Cleveland women's garment industry in 1921. The agreement providing for the setting up of such standards stipulated that the wages paid should be based upon "the productive value of the individual worker based upon fair and accurate standards, which standards shall be under the joint control of the association and the union and subject to review by the referees." Standards were set up in each shop. The agreement by which this step was taken is a continuing one and is still in force.

Hosiery Industry

In the full-fashioned hosiery industry the price of the article is secondary to quality. Labor costs are of secondary importance, therefore, as the skill of the worker is a prime requisite. It is pointed

[19] Railway Maintenance of Way Employees Journal, April, 1927, pp. 48, 50.
[20] Motorman, Conductor and Motor Coach Operator, February, 1928, p. 10.
[21] Journal of Switchmen's Union, September, 1927, pp. 419, 420.

out that for this reason the main avenue of elimination of unnecessary expense in production is that of the reduction of imperfect product. The union representative at the conference explained that in this industry, "quality production also means quantity production. If the knitter is making good stockings he is also making a lot of them," because when all conditions are right and the machine and silk are in good order, the knitter has to stop very infrequently and can work at top speed with few mistakes. But he can do this only for a certain number of hours a day; with the onset of fatigue, efficiency decreases, production falls, and mistakes occur, resulting in imperfect product. The union feels therefore that it is a real factor in eliminating waste when it insists on limiting hours but also urges its members to do their utmost in the way of producing "perfect work and lots of it" during these hours. "The official policy of our organization is to encourage capacity production."

> The union by guaranteeing to the employer that through cooperation with his employees and through collective bargaining that he will get the finest possible output of hosiery that his machinery is capable of making can checkmate anti-union employers' competition. The union has shown that it is possible to compete sucessfully on the basis of quality rather than of price. And if union men and women see to it that the employers who deal with the organization get real quality service and good production at all times the efforts which are made from time to time to create disturbances in the hosiery market will be easily nullified. "Perfect work and lots of it" must be our slogan.[22]

The union feels that it must see to it that the services of the members to the industry become "so invaluable that the industry will be bound to recognize the need for encouraging this improved service."

The success of this union in attaining this end is attested to by a report recently made by the Federal Council of the Churches of Christ in America and the Conference of American Rabbis of labor relations in union hosiery plants in Philadelphia. This report states in part as follows:

> In general it seems that the managements of the union plants investigated in the Philadelphia district have succeeded in establishing a régime of industrial relations with the union which compares favorably with that found in any other industry, whether under employee representation schemes or under a system of collective bargaining. In many respects this régime excels the relations found in the general run of industries. The emphasis on the elimination of waste, on efficiency, and on cooperation is particularly noteworthy. The fact that the managements concerned indorse the union as a constructive movement and praise the fairness of the union officials and the flexibility of their policy in meeting changing conditions is highly significant. At the same time the managements of these concerns have shown themselves to have more than ordinary ability to deal with labor constructively.
>
> The record which the union has made in conforming to its announced policies seems to have given it and its leaders a good reputation, not only with the employers who deal with it, but in the community at large. It tries to retain sufficient flexibility in policy to enable it to make adjustments necessary in a rapidly changing competitive industry. It has announced that it proposes to help friendly employers who seek its aid. Although it has to look out for the welfare of the rank and file of its members, it calls upon them to make sacrifices in the interest of extending harmonious relations. It prides itself on businesslike dealings.[23]

Textile Industry

The Textile Worker, in its issue of May, 1927, contains an interesting report of an instance of practical union cooperation. A certain textile mill had recently been organized, and the union "had prom-

[22] The Hosiery Worker, May 16, 1927, p. 4.
[23] The Textile Worker, June, 1928, p. 148.

ised the management better production and better relationship between employers and employees." In spite of this, however, the mill was turning out only some 35 per cent of its normal production. The management declared that this was due to the fact of the employees' being organized, while the union representative was equally convinced that the fault lay with the management. The firm thereupon invited him to take over the management of the plant and prove his contention. He did so, and at the end of the first four weeks had increased production 60 per cent; the workers were satisfied with the new arrangement, and the firm was so pleased that it offered him a permanent position as manager.

Increasing Workers' Trade Knowledge and Efficiency

THERE seems to be a quite general desire on the part of labor organizations to improve their members' skill and knowledge of the trade. A great many labor periodicals carry a regular section devoted to technical problems related to the trade, or to setting forth best methods of performing certain processes. The effort is made to enable the reader to keep posted on the results of research, the newest methods, descriptions of improved or new machines, etc. Among the unions which devote much space to articles on trade subjects are those of the flint-glass workers, marine engineers, photo-engravers, printers, printing pressmen, pharmacists, locomotive firemen, locomotive engineers, carpenters, bookbinders, steam engineers, molders, barbers, lithographers, lathers, machinists, plasterers, painters, paper makers, potters, railroad trainmen, railway clerks, railway conductors, etc.

The Brotherhood of Railway Carmen has established a trade education bureau with the three-fold purpose of developing books for the organization, arousing interest in trade literature, and conducting a trade department in the monthly magazine.

Some unions have gone so far as to inaugurate courses for members, journeymen as well as apprentices, others are doing such work jointly with the employers, and still others have enlisted the help of other unions or of the school authorities. The work done by labor unions along educational lines, in their attempt to raise the level of skill in the trade, is very extensive.

The union and the employers' association in the photo-engraving industry in 1919 formed what was known as the Photo-Engravers' Joint Industrial Council, whose purpose was the formulation of general trade policies, the consideration of "industrial experiments with special reference to cooperation in carrying new ideas into effect," the undertaking of industrial research along technical trade lines, studying methods of training apprentices, safeguarding the health of employees, settling disputes, and "considering any and all matters of general interest to the trade." A number of meetings were held at which the union brought up for consideration such questions as the advisability of the adoption of a uniform system of cost accounting for the trade, the establishment of a research department, the cost of which should be borne equally by employers and the union, etc. The union's attitude was that "an industry that desires stability and progress must provide for keeping abreast technical progress

and for installing the most improved methods and machinery of production. Attention to the material and technical side of production should proceed with equal attention to developing the organization of human relations upon a basis that will assure most effective cooperation and that high morale that comes when every individual is accorded opportunity to do his best work." [24]

The system of cost accounting which the union had employed a firm of accountants to devise, the council declared after study to be too intricate for practical use, and it undertook to study out a new system. The union's proposal for trade research has been met with indifference by the employers. At convention after convention of the union the union officers have reported that although they had been pressing the question, the employers had "manifested no practical desire to join with us in the development of a technical research department." That this attitude on the part of the employers is being gradually overcome, however, is indicated by the fact, reported to the 1927 convention, that joint industrial committees have been formed with employers in 31 local unions, and in 35 locals cost-accounting systems have been adopted.

Increasing the Sale of Product

THE labor organizations in what are known as the "union-label trades"—i. e., trades in which the use of a label indicating manufacture under union conditions is practicable—carry on a more or less continuous effort to increase the sale of the goods so produced. Through the columns of their own and other labor periodicals they urge fellow trade-unionists to carry their principles into practical effect by confining their purchases as much as possible to union-made goods carrying the label.

The United Garment Workers and the United Textile Workers carry on such work almost constantly. Indeed the latter, in its label agreement with the manufacturers specifically pledges itself to "do all in its province as a labor organization to advertise the goods and otherwise benefit the business" of the employer. It is stated that the efforts of the union in the case of one sheeting mill "have been in a large measure responsible for the——mill's ability to work steady, night and day, producing a volume of yardage far ahead of its competitors."

Mention has already been made of the fact that the shop employees of the Baltimore & Ohio Railroad and of the other railroads which have adopted the "B. & O. plan" have on more than one occasion paid for advertisements soliciting patronage of the road, and that in 1916 the brick and clay workers' union aided the employers in the Chicago district in an advertising campaign to increase the sale of bricks.

Handling of Grievances and Disputes

THE report of the executive committee to the 1927 American Federation of Labor convention pointed out that "practically every establishment operating under a collective agreement has developed some kind of continuous cooperation."

[24] Proceedings of the Photo-Engravers' International Union, 1924, p. 37.

Joint Settlement of Disputes

One type of cooperation very often provided for in collective agreements is for the handling of grievances. The simplest type of grievance machinery provided for is the shop steward. Any complaints by the employees which he can not adjust satisfactorily may be referred to a joint committee composed of representatives of union and employer. Sometimes a joint standing committee is provided for by the agreement. A typical instance is that of a large paper mill which handles grievances through such a committee which meets regularly at monthly intervals. The employer states that "thousands of matters of very small importance and perhaps hundreds of other matters of larger importance have thus been handled over a period of more than eight years between us and our workers."

In order to ascertain how prevalent the use of conciliation and arbitration in industry has become, the Bureau of Labor Statistics made inquiry on this point of the various international unions. The railroad unions were not questioned because disputes on the railroads are taken care of under the transportation act of 1926. Of the unions which replied 11 reported either that they made no agreements or that the agreements made no provision for conciliation or arbitration, and 38 replied that in some or all of the locals provision was made for joint settlement of disputes or grievances by either written or verbal agreements.

The number and per cent of locals having agreements providing for conciliation of disputes in the unions reporting, grouped according to degree of use made of such features, are as follows:

TABLE 16.—PROVISION BY LOCAL AGREEMENTS FOR JOINT SETTLEMENT OF DISPUTES AND GRIEVANCES

Union	Number of locals in union	Locals having agreements providing for joint settlement of disputes	
		Number	Per cent
Bookbinders	175	[1] 175	[1] 100
Brewery and soft-drink workers	179	179	100
Bridge and structural-iron workers	151	[1] 151	[1] 100
Garment workers (United)	200	200	100
Glass-bottle blowers	101	101	100
Granite cutters	101	[1] 101	[1] 100
Hod carriers	500	[1] 500	[1] 100
Hotel and restaurant employees	270	[1] 270	[1] 100
Iron, steel, and tin workers	125	125	100
Paving cutters	71	[1] 71	[1] 100
Plumbers and steam fitters	700	[1] 700	[1] 100
Printing pressmen	400	400	100
Quarry workers	52	52	100
Stove mounters	51	51	100
Stereotypers and electrotypers	149	[1] 149	[1] 100
Street-railway employees	291	[1] 291	[1] 100
Tailors	175	175	100
Wall-paper crafts	10	10	100
Foundry employees	14	12	86
Marble and tile setters	44	34	77
Wood, wire, and metal lathers	282	[2] 200	[2] 70
Pocketbook workers	3	2	67
Electrical workers	1,050	[3]	[3]
Paper makers	75	39	52
Longshoremen	275	[2] 138	50
Meat cutters and butcher workmen	200	100	50
Mine, mill, and smelter workers	25	7	28
Cloth hat, cap, and millinery workers	45	10	22
Automobile and aircraft workers	7	1	14
Textile workers	400	35	9
Plasterers	450	30	7

[1] "Practically all." [2] Approximate. [3] "A majority."

The International Typographical Union reports that "a large percentage" of its more than 800 locals have agreements calling for conciliation of disputes and grievances.

Arbitration

Arbitration is less frequently provided for in agreements than is the conciliation of disputes. Of the 86 international unions of which inquiry was made, in only some 23 cases do some or all of the local unions have agreements providing for local arbitration in case of failure of the parties to settle any dispute. All of the local agreements of the bookbinders, brewery and soft-drink workers, bricklayers, cloth hat, cap, and millinery workers, United Garment Workers, plumbers and steam fitters, printing pressmen, stereotypers and electrotypers, and street-railway employees make such provision, as do also 90 per cent of the hod carriers' agreements, 77 per cent of the local marble and tile setters' agreements, 70 per cent of the local lathers' agreements, 52 per cent of those of the paper makers, two-thirds of those of the pocketbook makers, about 27 per cent of those of the printers' unions, about 11 per cent of those of the coopers' unions, and about 9 per cent of those of the textile workers.

In some instances, the locals are required by their international to include in their agreements some provision for conciliation and arbitration. Thus, the International Union of Brewery, Flour, Cereal and Soft Drink Workers requires not only that its locals insert in their agreements some provision for the settlement of disputes, but requires that all locals making application for a strike order shall explain what efforts have been made to avert the strike and to settle the dispute.

Believing that "almost all labor troubles can be settled and rectified through the channels of reason and conciliation without having recourse to strikes," the Bricklayers, Masons and Plasterers' International Union requires its subordinate unions to provide for joint committees for the adjustment of all questions in dispute. While these committees are studying a question no stoppage of work may take place. In cases where several unions are working under an agreement with a contractors' association, a joint conference board is to be formed. The international has power, if any union refuses to become a part of this board, to impose a fine for the first and second offenses and if the local proves obdurate, to revoke its charter.

Until 1928 the Cigar Makers' International Union made no agreements with employers. The 1927 convention, however, made extensive changes in the laws governing the international and these were subsequently ratified by referendum vote of the membership. Among the changes was one permitting the officers hereafter to make collective agreements for not less than one year. By the new law provision will henceforth be made for local arbitration of labor disputes. "In the event that the local union is unable to reach a settlement with the local manufacturers the international president has the authority to call upon a State or Federal board of mediation and arbitration, or upon a civic jury mutually agreed upon by the interested parties. It is our purpose to include an arbitration clause in all of our agreements."

The union-label agreement of the United Garment Workers provides for arbitration of disputes which can not be settled by the aid of the international union. The secretary of the union states, however, that "for many years past we have had no occasion to call a strike or resort to arbitration. Our price adjusters have been able to adjust all difficulties with the manufacturers. However, if there is a question in dispute we immediately send a representative to take the question up and I do not know of a single case that we have been unable to adjust amicably. This agreement works out very satisfactorily for our organization."

All of the local unions of stove mounters have agreements providing that in the event of the failure of the local union and the firm to reach a settlement the matter shall be referred to a committee consisting of the officers of the international union and representatives of the firm (or if the latter is a member of the employers' association, the officers of that body).

The Tobacco Workers' International Union has a label agreement providing for arbitration of disputes and so successful has this agreement been that the union reports: "We have never had but one strike, occurring many years ago, and we have successfuly thwarted attempts since then."

The National Window Glass Workers has no definite arbitration procedure. The union reports, however, that disputes arising as to the interpretation of wage scales and working rules are usually handled through a local council consisting of the officers of the union and representatives of the employer. Failing adjustment by this method the international president is called in. "Under no circumstances are the workmen permitted to cease production until the national president has passed upon points at issue. Cases where this has been necessary very seldom occurred."

The Amalgamated Metal Workers of America makes no written agreements with employers. Disputes which can not be settled amicably may, however, be arbitrated, the matter of arbitration being left to the shop stewards' district council to which all the locals in a given district are affiliated.

As already shown in the case of the bricklayers' union, when the agreement is between the union and an employers' association in a particular market, provision may be made for a joint standing committee composed of equal numbers of representatives of the association and the union. Other industries have gone a step farther even than this and have provided for grievance machinery for an entire region or for the whole country. One of the many functions of such a joint committee or board is the interpretation of the agreement and the handling of new problems arising under it. Disputes arising between the employer and the union during the life of the agreement are referred to this board, whose jurisdiction may cover only a single establishment, a branch of the industry throughout a whole city, or may embrace a whole market. In such cases the board is usually headed by an "impartial chairman" selected mutually by the union and employer representatives on the board. Such machinery exists or has existed in all or part of the mining industry, railroads, the shipping industry, the electrical construction industry, the manufacture of clothing, and in the laundry, printing, coopering, cloth hat,

cap, and millinery, and cleaning industries, and in certain of the building trades.

The agreements of the Amalgamated Clothing Workers in the cities of Chicago, New York, Rochester, Boston, Baltimore, Cincinnati, Montreal, and Toronto provide for arbitration, but only after failure to adjust the dispute or grievance jointly by employer and union. When arbitration is resorted to the decision is final. The union points, however, with regard to the arbitration procedure:

> The system which obtains in the men's clothing industry is free of the element of chance. We don't refer matters for arbitration to people who are known only because they are —known. It is not the prominence of the prospective arbitrator that determines the choice of an industrial judge in the men's clothing industry. Nor is it his reputed fairness or wisdom. The industrial competence of the arbitrator is the thing considered first, fairness, social outlook, and breadth of view naturally coming next. This industrial competence is not assumed to dawn upon the arbitrator out of a clear sky. We train our industrial judges. Any system of arbitration which will operate through chance choices of arbitrators is bound to fail even if all its other conditions should be satisfactory.[25]

In the anthracite field, disputes are handled in accordance with a system set up by the award of the Anthracite Coal Strike Commission of 1902 and incorporated into the agreements between the United Mine Workers and the anthracite operators. The employees at each mine elect a grievance committee of three workers. Complaints are taken up by this committee with the foreman, and failing satisfactory adjustment with the company officials. In case that also is unavailing, the case may be referred to the board of conciliation for the district, and finally to the Central Anthracite Board of Conciliation. This central board is a permanent body of six members consisting of one representative of the miners' union and one of the operators from each of the three anthracite districts. In case the board is unable to reach a majority decision upon any question, the point must be referred to an umpire appointed by a circuit judge of the third judicial district, whose award is final and binding.

Until 1922 the newspaper publishers and the International Typographical Union had a national arbitration agreement by which local disputes could be appealed to the permanent international arbitration board of the industry, consisting of three representatives of the international union and three from the special standing committee of the American Newspaper Publishers' Association. This arbitration agreement was not renewed at its expiration in 1922, but the union states that notwithstanding the absence of a formal agreement many cases have since that time been referred to the board and settled by it.

The president of the International Printing Pressmen and Assistants' Union states that "with the exception of but a few months the * * * union has held an international arbitration contract with the American Newspaper Publishers' Association for nearly a quarter of a century."[26] Under the system now in force, acceptance of an arbitration agreement is optional with the local unions and the employers. Where such an agreement exists and in cases where conciliation fails to end a controversy, the parties may submit their case to be heard under the national arbitration agreement, in which case the decision of the arbitrators is final.

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[25] Advance, Feb. 3, 1928, p. 5.
[26] American Pressman, January, 1928, p. 24.

National arbitration machinery is provided for in the electrical construction industry. Local conciliation machinery is also set up, but if local efforts fail the case may be submitted to the council on industrial relations, a national board, which was established in 1920 for the purpose of maintaining peace in the industry, and of securing "the largest possible measure of genuine cooperation between member organizations and generally between employers and employees, for the development of the industry as a servant to society and for the improvement of the conditions of all engaged in the industry." The council consists of five representatives of the employers in the industry and five representatives of the International Brotherhood of Electrical Workers. It is stated that its policies differ from those of ordinary arbitration boards, in that "it professes to be a court of justice. It proceeds on the theory that arbitration involves compromise, which seems to mean in some minds adding up the claims on both sides of a dispute and dividing the sum by two; while judicial settlement involves the application of definite and certain principles without any accommodation between the parties."

The statement of fundamental principles upon which the council is based contains the following:

1. Strikes and lockouts are undesirable from every point of view.
2. No dispute can arise between employer and employee which can not be settled in friendly negotiation, provided the parties to the dispute have the will honestly to try one or more of these methods.
3. The industry can not fail to thrive on cooperation between employer and employee, and will surely languish if such cooperation is absent.
4. Cooperation resulting in mutual good will is the key to increased production and better craftsmanship.
5. The road to the highest efficiency of the individual working unit lies through the field of frank cooperation and fair dealing.

Formal decisions have been made in 24 cases and the services of the council have been given informally in many others. The local boards of conciliation provided for under the scheme have, according to the chairman of the council, "practically dropped out of sight because, as a rule, there were always disagreements because the two parties * * * were stubborn, because they were interested parties and were not able to bring to bear any impartiality on the subject."

As to the success of the council, the chairman makes the following statement:

The council has a degree of influence throughout the industry which is rather remarkable. It has surprised the council members themselves. Many cases of local disputes and difficulties have been settled quickly if there seemed to be any probability of them going to the council. * * * What that means in reality is that one side or the other knows it is wrong and will be beaten. It shows that there is a broad feeling that the council is able to function impartially and like a court.

and again:

One of the chief accomplishments of the council is intangible in its nature. The representatives of the employers and the unions by getting together in an informal way around the table and discussing frankly without heat or passion the many perplexing problems in which both groups are vitally interested have developed an industrial good will and respect for one another's opinions which are of material assistance in laying the foundation for better industrial relations throughout the whole industry. Their method is the joint investigation of the

facts and working out the elaboration of a constructive industrial program on the basis of the facts.[27]

On the railroads, disputes over working rules, conditions, and other matters go to regional boards of adjustment. Major disputes between carriers and men may be taken before the United States Board of Mediation, which was established by a law of 1926 as the result of the efforts of both carriers and the organizations of the railroad workers.

In some industries the agreement provides that all means of conciliation must be exhausted before calling in an impartial member and constituting an arbitration board. But in most instances the decision of arbitrators, once resorted to, is final.

Some industries, notably the printing and street-railway industries, have a long and honorable record of peaceful settlement of disputes. Even those unions which have made the most use of arbitration, however, resort to it only when absolutely impossible to reach a settlement through conciliation or other peaceful means, because of the expense involved.

Other Instances of Cooperation

THERE are many other instances in which the cooperative efforts of organized labor have helped to overcome difficulties and even sometimes to avert disaster. Thus, a contracting firm in the men's clothing industry in New York City notified the Amalgamated Clothing Workers that the prices it received from the firm for which its work is done were so low that it could no longer afford to remain in business and was therefore going to close its shop. The union investigated, found the situation to be as represented by the firm, and arranged for a conference with the manufacturers' association to discuss the situation. As a result the employing firm raised the scale of prices paid to the contractor. "This solves the problem in a manner satisfactory to everyone concerned. The contracting firm will continue in business and the workers will have their jobs without having to reduce wages or accept a higher production standard." [28]

In one of the principal clothing centers a firm employing nearly 3,000 people was on the verge of breakdown, due partly to inefficiencies in management and partly to keen competition.

Had the firm been allowed to go under, 3,000 people in that city would have lost employment, and there was no industry in that city to absorb the great mass of workers thus thrown out of their jobs. A scramble for jobs in the other establishments would have followed. A general lowering of standards would be the inevitable outcome. And with industrial standards lowered in the whole market the general condition of the industry would be bound to suffer. The organization, to be sure, could retain its theoretical purity, and do nothing whatsoever to help the employer, and then face the disastrous music of dislocation and demoralization. Or it could do what it has actually done: It could look into the business, find what was wrong, whether on the side of the management or the side of production, and make the necessary readjustments so that 3,000 people could stay employed even though under conditions temporarily disadvantageous.[29]

[27] For a more detailed discussion of this council see Labor Review, issues of March, 1921 (pp. 126, 127), and August, 1923 (pp. 26–43).
[28] Advance, July 1, 1927 p. 10.
[29] Advance, Jan. 14, 1927 p. 3.

For three years the union "participated constantly in the terms of business and financial reorganization" of the firm, which finally regained its ground. The union's "policy of care and concern with the problems of the industry" has also assisted firms in other markets to tide over crises resulting from industrial depression or inefficient management.

On several occasions the union has given financial assistance to union manufacturers who were in danger of liquidation.

In each of these cases, three in number, our policy proved to be wise and had the effect we had anticipated. Each of these firms, located in widely different parts of the country, employed more than 1,000 of our members. Each was in the hands of bankers who threatened liquidation unless the firm could improve its financial position. The first firm never found it necessary to use any of the credit it had been promised by the organization and is now in a very prosperous condition; the second paid off its loan in a few months; and the third is rapidly liquidating the credit granted by the union. At least two of these companies would have been out of business but for this assistance from the union. Between them they now employ more than 4,000 union members. It is, of course, not the policy of our organization, or of our financial institutions, to make loans to the manufacturers of clothing. This is the function of the private commercial bank. But where, as on rare occasions, a firm faces liquidation, our members face the distress of prolonged unemployment, and the organization appears in a position to help in the solution of the situation, it is our function to lend what assistance we can.[30]

As the executive board of the union reported to the 1926 convention, "it is no uncommon experience in the clothing industry to find manufacturers and managers referring their problems of shop management to officers of a labor organization."

[30] Amalgamated Clothing Workers of America. Eighth biennial report of the general executive board 1926–1928, pp. 14, 15.

Retirement Systems for Police and Firemen [1]

RETIREMENT systems covering the police and firemen are usually the earliest established in a community, and often they may be found even where no other systems have been adopted. The present investigation, as mentioned in earlier discussions, covered cities having a population of 400,000 and upwards. Of these, there were 17 having retirement systems for the police, the fireman, or the police and firemen combined. (Boston is omitted, as there both police and firemen are included in the general plan for the retirement of municipal employees.) Thirteen cities have separate systems for the police, 13 (not quite identical) have separate systems for the firemen, and 3 have combined the systems covering the two departments.

Police Retirement Systems

OF THE cities studied, St. Louis is the only one which does not have some plan for permitting its police to retire on allowance, but in Los Angeles, Newark, and Washington, D. C., the systems for police and firemen have been combined. This article, therefore, deals with 13 systems for the police, 13 for firemen, and 3 for the police and firemen combined, which will be treated separately.

The majority of the police retirement systems date well back into the last century. Probably the oldest is that of New York City, which was established in 1857. Practically all of the earlier schemes have been materially changed from their first forms, and it seems unnecessary to attempt to fix the precise date of origin. The membership of the systems, by cities, is as follows:

Baltimore	1,864	Minneapolis	499
Buffalo	1,144	New Orleans	877
Chicago	6,080	New York City	15,950
Cincinnati	525	Philadelphia	5,600
Cleveland	1,421	Pittsburgh	904
Detroit	2,762	San Francisco	1,186
Milwaukee	938		

The numbers here given are not comparable, since there are differences as to the classes of employees included in the schemes, and occasionally local circumstances affect the number of the force. These figures are given merely as conveying in a general way some idea of the number covered.

The custom differs as to the inclusiveness of the systems, some limiting membership to the uniformed force and detectives, while others take in all employees of the department. In general, if a city maintains an inclusive municipal employee system, the civilian members of the department, such as clerks, janitors, and the like, are covered by this, and only the so-called "fighting" force comes under the terms of the police retirement system. Where woman police are employed, they are counted as part of the uniformed force, and some of the systems specifically include police matrons and assistant matrons.

[1] Other articles on public-service retirement systems in the United States were pulbished in the following issues of the Labor Review: August, 1927 (pp. 10–24); September, 1927 (pp. 14–31); December, 1927 (pp. 30–46); April, 1928 (pp. 38–43); July, 1928 (pp. 15–26).

Employee Representation in Management

IN THE matter of giving employees a voice in the management, the systems are almost evenly divided, seven having employee representatives on the board of control, while six intrust the administration either to a single official or to a board composed of city officials. In the latter group, the Baltimore and the New York systems are managed by the commissioner of police, the New Orleans system by the commissioner of public finance and the secretary of the board of police commissioners, the San Francisco system by the board of police commissioners, the Buffalo system by a board composed of the mayor and four councilmen, and the Detroit system by a board of city officials in which the police commissioner is included. In the remaining systems the administrative boards contain, in addition to ex-officio members, a certain number of employee representatives elected by their fellows, and in several cases, these form a majority of the board. In Milwaukee, for instance, there are three employee representatives in a board of five, in Minneapolis five in a board of eight, and in Cincinnati six in a board of seven.

Source of Funds

ALL of the systems included in this study are contributory, but they vary considerably in the proportionate amounts contributed by the force and by the employing agencies. In many of the systems, in addition to the contributions from employer and employees there are receipts from unclassified sources which materially increase the annual income.

Contributions from employees.—Under four of the systems the employees contribute a flat sum monthly, the amount being $1 in Cincinnati, $2 in San Francisco, in Cleveland a payment ranging from 50 cents to $1.25 according to the rank of the contributor, and in Philadelphia an amount equal to one day's pay, disregarding all salary in excess of $3,000 a year. In the other nine cities the employees pay a percentage of their salaries, ranging from 1 per cent in Detroit and Minneapolis to 4.625 per cent in Milwaukee and in Chicago to 4.75 per cent of the salary up to $2,600 a year. In the last two cities the proportion of the percentage for each of several distinct purposes has been carefully allotted. In Chicago, for instance, a member pays 3.5 per cent of his salary toward the allowance he expects to draw upon retirement, 1 per cent for the widow's annuity, one-eighth of 1 per cent to provide for ordinary disability retirement, and the same amount toward the expenses of administration. In Milwaukee the division is the same, except that the employee pays 3 per cent toward his own retirement allowance, and one-half of 1 per cent for ordinary disability retirement. In the other cities the employee pays simply the prescribed percentage and its exact assignment is not specified. In Minneapolis, in addition to the percentage contribution, the members who have completed their probationary period pay 50 cents quarterly toward expenses of administration.

Contributions from employers.—With few exceptions, the cities make a practice of turning over to the police retirement fund various miscellaneous moneys, which in the aggregate make a considerable addition to its resources. The sources of the amounts thus turned

over vary from city to city. A rather typical list includes all fines and costs imposed by station-house magistrates, fines imposed upon the police for disciplinary purposes, all or a part of any rewards and donations to officers for special services or extraordinary valor, fees for permits for public entertainments, special permits to dancing schools and physicians, fees for licenses issued to private detectives, unclaimed money, and the proceeds of sale of unclaimed property left beyond a certain length of time in the hands of the police, proceeds of the sale of unfit, condemned, and unserviceable property belonging to the department, and other unclassified receipts. Some cities include the fees for dog licenses, and others the fees for permits for boxing contests.

In general, all cities, whether or not they make these miscellaneous contributions, make a direct appropriation for the support of the system. Baltimore, Buffalo, New York, and Philadelphia provide that the city shall make appropriations as needed to maintain the system, New Orleans devotes to this purpose 2 per cent of the amount appropriated for the support of the police department, and Chicago, Cincinnati, Cleveland, Detroit, Milwaukee, and Minneapolis provide for raising, by a special tax, the amounts needed to pay the city's share of the system's benefits. Pittsburgh provides that a certain percentage of the amount raised by general taxation may be used for this purpose, while San Francisco makes no direct appropriation but uses the money derived from certain fines and licenses for this purpose. In some cases the city simply undertakes to supply what is necessary to maintain the payment of allowances, while in others its share of responsibility for benefits promised under the system is carefully defined. In Chicago, for instance, the city contributes for each member of the force an amount equal to 10.5 per cent of his salary, of which 2 per cent is for the widow's pension and 8.5 per cent for his own future pension. The city also bears the entire cost of the extra benefits provided by the system, and makes up any deficiency in the cost of administration, if the amounts contributed by the employees for this purpose are not sufficient.

Other sources of income.—In some cities a custom still prevails under which the police raise funds for retirement and benefit purposes by staging an annual ball game, or a dance or other entertainment for which admission is charged. Sometimes they hold a carnival, or receive the proceeds of a benefit performance, or sell advertising space in a yearbook, or resort to other money-making devices. Often very considerable sums are raised by such means, but the practice is looked upon with less favor than in the earlier days, and there is a general tendency to give it up and support the retirement system by definite contributions from employer and employees.

Interest on deposits and occasional profits on good investments are also sources of income, and most systems provide that gifts, donations, and legacies for the benefit of the fund may be accepted.

Cost of Administration

THREE cities (Chicago, Milwaukee, and Minneapolis) require contributions from the employees toward the expenses of management. In Chicago and Milwaukee each employee contributes one-eighth of 1 per cent of his salary monthly and in Minneapolis after a

six months' probationary period each employee is assessed 50 cents quarterly for this purpose. In other cities the costs are frequently merged with the general expenses of the department. Sometimes a particular item of expense, such as the salary paid for doing the secretarial work, or cost of printing or postage is paid from the fund, the department meeting the remaining expenses, and sometimes the city carries the whole matter as part of the routine cost of the department.

Conditions for Retirement

SERVICE or superannuation retirement.—Age as a condition for retirement plays rather an unimportant part in these systems. In seven cities (Baltimore, Buffalo, Cincinnati, Cleveland, Detroit, New Orleans, and Pittsburgh) there is no age requirement and no age fixed for compulsory retirement, though it is sometimes provided that after a given age a man may be compulsorily retired if his condition renders this advisable. New York expects retirement after 25 years' service unless an extension is secured, but at 55 retirement is optional if 20 years' service has been given, and at 60 regardless of length of service. Of the other cities, Minneapolis and Philadelphia permit retirement from 50 onward, but couple this with a service requirement of 20 years. Chicago and Milwaukee have rather complicated age requirements. Those in service when the system was adopted may retire from 50 onward, if they have completed 20 years of service, and will receive the full allowance. Those who entered after the adoption of the system may retire under the same conditions, but will not receive as large an allowance as if they remain until 57; at that age their allowance is fixed and is not increased by service given thereafter. San Francisco makes no provision for optional retirement but enforces it at 65.

Baltimore alone among these cities has no service requirement, basing retirement upon disability rather than upon age or service. The disability may be due to the infirmities of age, but in that case it is the disabilities, not the number of years the retirant has lived or served, which condition the retirement. Of the other cities, seven (Buffalo, Chicago, Minneapolis, New Orleans, Philadelphia, Pittsburgh, and San Francisco) require 20 years' service, though Chicago does not insist on this qualification unless the retirant is under 57. Cincinnati, Cleveland, Detroit, and New York require 25 years' service, New York modifying this requirement as mentioned above, while Milwaukee calls for 15 years' service if the retirant is 57 or over, and 20 if he is under that age.

Disability retirement.—In all the cities disability due to injuries or illness incurred in the direct performance of duty is recognized as a cause for retirement on allowance, regardless of age or length of service rendered. All but three (Minneapolis, New Orleans, and Pittsburgh) recognize disability arising from ordinary causes as ground for retirement on allowance, though several require service qualifications in addition. Cincinnati sets this service requirement at 5 years, New York and Philadelphia at 10, Cleveland at 15, and Baltimore at 16. All the systems require medical examination and certification before retirement for disability is permitted, and in the case of ordinary disability it is frequently specified that the disability must not be due to the employee's own fault or misconduct.

Retirement Allowances

MOST of the systems provide the same allowance for service and for duty-disability retirement, and the commonest amount fixed is one-half the salary drawn at the time of retirement. Two cities, Cleveland and Pittsburgh, grade the allowance according to the rank held by the retirant, the monthly payments ranging in Cleveland from $87.66 to $125, and in Pittsburgh from $50 to $75. In Chicago and Milwaukee the allowance consists of an annuity bought by the retirant's accumulated contributions and a pension bought by the city's contributions on his behalf, the maximum in Chicago being 75 per cent of the salary received at the time of withdrawal (salary over $2,600 a year being omitted from the calculation) and in Milwaukee 75 per cent of the highest salary received during the period of service. In Chicago, if the retirant was in the service before the adoption of the present system, has reached the age of 50, and has given 20 years of service, he is entitled to retire on an allowance of one-half his salary, whether or not the accumulations to his credit will purchase such an annuity, the city making up any deficiency. In Milwaukee the city provides an allowance for prior service for those on the force when the system was adopted.

Of the other nine cities, seven fix the allowance at one-half the salary drawn at the time of retirement, Philadelphia puts it at one-half the average salary for the last 10 years, and San Francisco at one-half the salary held 3 years prior to retirement. Detroit introduces an interesting variant by fixing the pension at one-half the salary of the rank held by the retirant at the time of withdrawal; if, later on, the salary attached to that rank is changed, the allowance changes accordingly. Minneapolis puts the allowance at one-half the salary, but fixes $75 a month as the maximum to be paid. Since the adoption of the system, salaries have been raised, and now the salary of the lowest rank is $150 a month, therefore, $75 a month is at once the minimum and the maximum payable under this system.

Disability retirement allowances.—In 10 of the cities the allowance for duty disability is normally the same as for service retirement, though in some of these a certain latitude is permitted, the proviso reading that the amount is not to exceed one-half the salary at time of retirement. Of the three remaining cities, Chicago provides for duty disability an allowance of three-fourths of the recipient's salary, with an additional allowance for each child under 18, the whole not to exceed the salary drawn at the time of injury. Milwaukee gives 55 per cent of the salary with $10 a month for each child under 18, the whole not to exceed 75 per cent of the salary, and Pittsburgh provides that the retirant shall receive for 52 weeks one-half of the salary at the time of injury, and then, if permanently injured, he is entitled to a lump sum of $1,200.

As mentioned before, the Minneapolis, New Orleans, and Pittsburgh systems do not permit retirement on allowance in case of ordinary disability. Of the 10 cities which permit such retirement, four give the same allowance as for duty disability and 6 either permit or enforce a different pension. Thus, in Buffalo the council is to set the allowance, but may not give more than one-half the salary at the time of retirement. In New York, if the retirant has

served 10 but less than 20 years, the pension is to be not less than one-fourth nor more than one-half the salary, but if he has served 20 or more years, it is one-half the salary. Chicago and Milwaukee give one-half the salary, with the usual deductions for annuity purposes, and both cities provide that this allowance may not be paid for a period longer than one-fourth the retirant's term of service, and not in any case for over five years. Philadelphia allows for each year of service one-twentieth of the normal retirement allowance, and Cincinnati gives $36 for each year of service, with a maximum of $900 a year.

Dismissal allowances.—Only two systems, those of Cincinnati and Cleveland, include these allowances. Both provide that if a man is dismissed after 15 years' continuous service, except for certain specified faults or misconduct, he is entitled to an allowance which in Cincinnati is not to exceed $600 a year, and in Cleveland is to be one-half the allowance for service retirement for his rank.

Refunds

ONLY four of these systems provide for a return of contributions in case of the death or separation from the service of a member before reaching pensionable status. In Chicago if a member withdraws or is dismissed before reaching pensionable status, he receives a refund, with interest, of his contributions for annuity purposes, but not of what he has paid in for ordinary disability retirement (this being looked upon as in the nature of insurance) nor of his contributions toward expenses of maintenance. If a member is unmarried or a widower upon reaching age 57 or at the time of his retirement, if that takes place before 57, he is entitled to a refund, with interest, of his contributions for the widow's annuity. Upon the death of a member his heirs are entitled to a refund, without interest, of his contributions for annuity purposes, provided they have not been paid out to the policeman himself or to his dependents in the form of annuity. Milwaukee has a somewhat similar system. Upon withdrawal or dismissal before reaching pensionable status, the officer is entitled to a refund of the entire amount contributed for his own and his widow's annuity with interest. A similar refund is made to his heirs or estate in case of death. In Pittsburgh a refund of contributions without interest is made in case of the withdrawal, dismissal, or death of a member, and in San Francisco, while no refund is made in case of withdrawal or dismissal, a refund of contributions, without interest, is made, in case of death from natural causes after 10 years of service, to the widow, minor children or dependent mother of the deceased.

Provision for Dependents

ALL the systems considered recognize a responsibility toward the immediate dependents of a man killed in the performance of duty or dying as a result of injuries so received, and 9 of the 13 also make some provision for dependents in case of death from normal causes. There is a good deal of variety in the kind and degree of provision made. In some of the older systems a flat pension was fixed for the widow or for the dependent children under a certain age; sometimes the amount was revised as the cost of living rose, but

this was not invariably done, and so it happens that in some cases the widow's pension, which was doubtless entirely satisfactory when the system was adopted, is now a scant provision for any normal needs. In the systems which have been reorganized in recent years, the provision for dependents sometimes receives as careful and detailed attention as the arrangements for the benefit of the member himself. Chicago and Milwaukee are good examples of this, annuities for the widows and provision for minor children of the members being basic features of the schemes.

The Chicago plan provides that if a member dies from ordinary causes, his widow is entitled to an allowance purchased by the accumulated contributions made for this purpose by the member and the city, the maximum allowance being 60 per cent of the member's salary. A prior-service allowance is provided by the city alone for the widows of members in service before the system was adopted. In case a member is killed in the performance of duty, his widow is entitled to what is called the compensation annuity, amounting to three-fourths of the decedent's salary, which is paid to her until her husband, had he lived, would have reached age 57, when it ceases and she receives only the ordinary widow's allowance, described above. This ordinary allowance continues during life, not being affected by her remarriage. Whether the man's death was due to normal causes or to injuries received in the service, an allowance of $10 is made for each child under 18, until it reaches that age. If the mother as well as the father is dead, the allowance for the children is increased to $25 a month. The compensation annuity and the children's allowances combined must not exceed the full salary received by the deceased, any excess being taken from the children's allowances.

The Milwaukee system is in the main similar to that of Chicago in this matter, though under its terms the combined allowances of the widow and children may not exceed 75 per cent of the deceased member's salary. Also in Milwaukee the extra allowance made to the widow of a man killed in the performance of duty is whatever amount is needed to bring her annuity up to the amount which she would have received had her husband attained age 57 or, having reached that age, had completed 15 years of service before his death. This extra amount is stopped in case of her remarriage, but the normal annuity continues throughout her life. The allowance for each child under 18 is, as in Chicago, $10 a month, but if the mother as well as the father is dead this is increased only to $15 a month instead of to the $25 provided under the Chicago plan.

Few of the other cities make such elaborate provisions. Baltimore, Detroit, Philadelphia, and San Francisco provide for dependents only in case death is due to the performance of duty. In that case Baltimore allows the police commissioner in his discretion to give the widow during widowhood the pension the man would have received if retired; Detroit gives the widow a pension of $100 a month until remarriage, with an allowance of $20 a month for each child under 16; Philadelphia gives a pension of $20 a month with $6 a month for each child under 14; and San Francisco gives one-half the decedent's salary to the widow during widowhood. In case no widow

survives the decedent the allowance may be paid to dependent children or, if there are none, to a dependent parent or parents.

In the other cities provision is made for dependents, whether or not death is incurred in the performance of duty, though occasionally it is provided that an officer must have served for a specified period or else the dependents are not entitled to the allowance. In Pittsburgh a flat payment of $1,200 is made. New York provides that in case of a duty death the allowance is to be not less than $600 a year, nor more than one-half the decedent's salary, and that in addition there shall be a lump-sum payment equal to the annual salary the decedent was receiving at the time of his death. In the case of a death from ordinary causes the dependents are entitled to a pension of $300 a year. In New Orleans the widow of an officer killed in the discharge of duty or dying from ordinary causes after 20 years of service is entitled to $150 a year, and in the other cities the allowances range from $300 to $1,200 a year, or, in some cases, to one-half the salary the officer was receiving at the time of his death. In these cities the widow's pension continues only during widowhood. Allowances for each child under a given age are common, the age limit varying from 14 to 18, and the amount of the allowance from $6 to $25 a month, Detroit alone exceeding this last figure with a proviso that if the widow dies or remarries, the person responsible for the care of the children shall receive $40 a month for each child under 16.

Retirement Systems for Firemen

IN BALTIMORE and in Boston the firemen are included in the general scheme covering city employees, and in three cities they and the police are merged in a common system. Elsewhere they are covered by plans of their own, often dating back to a period very near the organization of the service as a city department. With the exception of the San Francisco system, all of these retirement plans were formed in the last century, the oldest being that of New York City, which commenced paying benefits in 1871. A number, however, have been so changed within recent years that they are practically new systems. Minneapolis, for instance, introduced important changes in 1921, Milwaukee and Pittsburgh in 1924, and Detroit in 1925. Chicago made various changes in its system in 1917, and since 1925 has had several plans under consideration for reorganizing it, or for including it with the general municipal retirement plan.

The systems covered, with their approximate membership in 1926, are as follows:

Buffalo	946	New Orleans	628
Chicago	2,341	New York City	6,078
Cincinnati	624	Philadelphia	2,100
Cleveland	1,061	Pittsburgh	931
Detroit	1,698	St. Louis	940
Milwaukee	723	San Francisco	967
Minneapolis	513		

These systems commonly cover only the uniformed force, but in a few cases it is specifically stated that all members of the department are to be included, while in others certain groups of the nonuniformed members are covered. The Detroit system, for instance, applies to

the uniformed and civilian groups alike, while the Chicago plan covers the fire-fighting force, the fire-alarm operators, and the linemen connected with the department.

Employee Representation in Management

IN BUFFALO the system is managed by a board of 5, consisting of the mayor and 4 councilmen, in Detroit by a board of 5 all of whom are ex-officio members, in New York the commissioner of the department is trustee of the fund with full power to administer and control it, and in San Francisco the board of fire commissioners has the trusteeship of the fund. In the nine remaining cities the members of the force are represented on the administrative body, and not infrequently form a majority there. In New Orleans, for instance, the board consists of the president and secretary of the board of fire commissioners and the chief engineer of the department, ex officio, and 6 members of the uniformed force elected by their fellows; the Minneapolis board of 8 includes 6 active members of the force elected by their fellows, and in Milwaukee the board of 5 consists of the city treasurer, 1 member appointed by the mayor, and 3 elected by the firemen from their own number.

Character of Schemes and Sources of Funds

THREE of the systems, those of Detroit, New York City, and San Francisco, are noncontributory, the cities bearing the whole expense, but elsewhere the employees and the cities join in supporting the plans. In regard to contributions from employees the contributory systems are evenly divided, five fixing the contribution at a flat sum monthly, and five requiring a percentage of the salary. In the first group the Cincinnati system calls for a contribution of 50 cents a month from each member, in Cleveland the payment ranges from 50 cents to $1.25, according to the rank of the member, in Minneapolis it is fixed at $1.50 a month, with an initiation fee of $10, in St. Louis it is $2 per month with an initiation fee of $5, while in Philadelphia members in active service contribute one day's pay and pensioners one-half of a day's pay, based on their salary at the time of retirement. In the second group the firemen of New Orleans pay 1 per cent of their salaries for pension purposes, those of Chicago and Pittsburgh 2.5 per cent, and those of Buffalo 4 per cent. Under the Chicago system a fireman who retires before reaching 50 must contribute an amount equal to 2.5 per cent of his final salary yearly until he reaches that age. Milwaukee has a carefully worked out system under which members pay 3 per cent of their salaries for their own annuities, 1 per cent for widows' annuity, one-half of 1 per cent for ordinary disability benefit, and one-eighth of 1 per cent toward administrative expenses. In Minneapolis, New Orleans, and Pittsburgh, members are liable to assessments of from $1 to $2 upon the death of a fellow member.

As in the case of the police retirement systems, it is common for the cities to use for the benefit of the firemen's fund a number of miscellaneous receipts. New Orleans, for instance, turns over to the fund all fines imposed upon the force and fines imposed upon others for violations of the fire regulations, 1 per cent of all license

fees, payments for special details, rewards for special services, and proceeds from the sale of surplus and condemned property of the department.

Another source of income is often the tax on business done in the State by outside fire-insurance companies. It is not unusual for a State to levy a tax on such business and to turn over to the cities in which it is done all or part of the tax on the business done in that city, often specifying that a certain percentage of it is to go to the fire department's pension fund.

The city also very generally makes a direct contribution of whatever amount is needed to maintain payment of pensions and benefits, either appropriating it each year from the general revenues or levying a tax especially for the purpose. Of the cities covered, Milwaukee alone has a carefully worked out system of contributions designed to cover each year the liabilities incurred that year. For each man on the pay roll it contributes annually 9 per cent of his salary for his pension, 2.5 per cent for the widow's allowance, and one-half of 1 per cent for ordinary disability benefits. In addition, it contributes yearly one-eighth of 1 per cent of the aggregate pay roll toward expenses of administration and makes a deficiency contribution to meet extra benefits and the prior-service liability. Its contribution is raised by a tax levy not to exceed five-tenths of a mill on the dollar.

In several cities the fire department still maintains the custom of having an annual carnival, getting up an annual handbook with charges for advertising, or in some similar manner raising money either for the retirement fund or for the benefit association which is sometimes maintained in close connection with the retirement system.

Costs of Administration

IN MILWAUKEE the city and the members of the force make regular contributions to defray the cost of administration, but elsewhere either such expenses are paid out of the general funds of the system or there is a rather vague division of costs between the system and the city, the former perhaps paying for clerk hire, postage, printing, and the like, while the latter carries such expenses as rent, heat, and light without making any distinction between what might justly be debited to the system and what is strictly chargeable to the department. In a few cases the whole cost of the system is carried as part of the department's expenses.

Conditions for Retirement

SERVICE or superannuation retirement.—As a condition for retirement on allowance, age is rather an unimportant matter in the firemen's systems, only five cities imposing an age qualification, and several of these modifying it by other circumstances. Philadelphia puts the age for optional retirement at 45, with a service requirement of 20 years. Chicago puts it at 50, but permits retirement earlier if the claimant has served for 20 years; in such a case, however, contributions to the fund must be continued until the retirant reaches 50. Minneapolis sets 50 as the normal age for optional retirement, but permits it earlier if 20 years of service have been given; in that case,

however, the allowance does not begin until the retirant has reached 50. San Francisco makes retirement optional at 55 after 20 years of service, but permits it at any age after 25 years' service. Milwaukee varies its age requirement according to length of service and to the allowance to be paid. Retirement is optional at 57 if the retirant has served 15 years, or as soon after 57 as 15 years of service have been completed. It is also permitted at 50, after 20 years' service, or, with a reduced allowance, at 50 after 10 years' service. The remaining eight cities have no age requirements.

It is not customary to set an age for compulsory retirement, the arrangements for disability retirement taking the place of such a provision. The San Francisco system specifies that a member may be compulsorily retired at 60 or over, if infirm or incapable, but in the other systems this is taken for granted.

A service requirement is universal. Milwaukee sets it at 15 years, though, as mentioned above, it sometimes permits retirement after 10 years, reducing the allowance when this privilege is claimed. Eight cities, Buffalo, Chicago, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, and St. Louis, fix it at 20 years. San Francisco requires either 20 or 25 years, according to age, and Cincinnati, Cleveland, and Detroit call for 25 years.

Disability retirement.—All these systems provide for retirement on allowance in case of disability incurred in the performance of duty, without imposing any conditions as to age or length of service. This is the only form of disability retirement on allowance permitted in Detroit, Philadelphia, St. Louis, and San Francisco, but the other systems give pensions in case of ordinary disability, providing it is not due to the man's own fault or misconduct. Cincinnati requires that such a retirant must have served not less than 5 years, and New York makes a difference in the amount of pension granted if the service is of less than 10 years' duration, but with these exceptions there are no age or service limitations. Medical certification of disability, based upon examination, is generally required, and under some systems periodic reexaminations must be taken so long as disability pensions are paid.

Retirement Allowances

NINE cities (Buffalo, Chicago, Cincinnati, Cleveland, Detroit, New Orleans, New York, Philadelphia, and San Francisco) give as the normal retirement allowance half or "not less than half" the salary drawn at the time of retirement, five of them modifying this provision somewhat. Chicago places on it a minimum of $600 and a maximum of $3,000 a year; Cincinnati puts a minimum of $75 and a maximum of $100 a month; Cleveland has the same maximum, but makes the minimum $87.66 a month; Detroit specifies that the allowance is to be half the salary attached to the rank held at the time of retirement, and that if this salary is changed at any time the pension is to undergo a corresponding change; and Philadelphia sets the allowance at one-half of the average annual salary for the last four years of service.

The four remaining cities use different plans. Under the Milwaukee system the allowance consists of an annuity bought by the

retirant's accumulated contributions, plus a pension bought by the city's accumulated contributions to his credit, the two together not to exceed 75 per cent of the highest salary received during the period of service. For those in the service before the present system was adopted, the city provides a prior service allowance. Minneapolis gives $600 a year to those retiring after 20 years' service, and increases this by progressive additions for each 5-year period in excess of the required 20. Pittsburgh grades its allowances into six classes, according to the rank held by the retirant, the annual amounts running from $600 to $900. St. Louis gives $600 a year.

Disability allowances.—Only two of these cities, Milwaukee and Minneapolis, make any distinction between the service allowance and the duty disability allowance. Cincinnati and New York, while making no difference between these allowances, pay a smaller allowance to those retiring on account of ordinary disability with only a limited term of service. The nine remaining cities pay the same allowance, whatever the cause of the retirement.

In cases of ordinary disability, Cincinnati pays no allowance unless the retirant has served at least five years. For those meeting this condition, the allowance is $3 per month for each year of service up to 25, at which point it reaches the minimum for service and for duty disability, and there it stops. In actual practice, since service retirement is permissible after 25 years of service, the retirant would probably claim that, rather than the disability allowance.

Under the Milwaukee system the allowance for duty disability is 55 per cent of the salary drawn at the time the disability was incurred, with an additional allowance of $10 a month for each child under 18 years old, the total amount not to exceed 75 per cent of the highest salary drawn during the period of service. For ordinary disability the allowance is 50 per cent of the salary, from which 4 per cent is deducted for annuity purposes; this allowance may not be paid for over five years.

Minneapolis grades the allowance according to the degree of incapacity. For those who are totally disabled the allowance is $900 a year; those who are permanently incapacitated for work as firemen but are able to do light manual labor or office work receive $480, and those who are disqualified for firemen's service but able to do ordinary manual labor receive $180 yearly.

In New York the allowance is the same for service retirement, for duty disability, and for ordinary disability after 10 years of service; for ordinary disability with less than 10 years of service, the allowance is not to exceed one-third of the final salary.

Dismissal allowances.—The Cincinnati and Cleveland systems provide that if a member is dismissed after a stated period of service, unless it be for certain faults specified in the regulation, he is entitled to a dismissal pension. In Cincinnati it is given for dismissal after 15 years of service and amounts to $2 a month for each year of service rendered, up to 25. In Cleveland the service period is 12 years, and the amount of the allowance is fixed at three-eighths of the salary.

Refunds

ONLY two of the ten contributory systems, those of Milwaukee and Pittsburgh, provide for a refund of contributions in case of separation from the service before reaching pensionable status. Milwaukee provides that in case of withdrawal or dismissal the accumulated contributions for annuity purposes shall be returned with compound interest. In case of death, if the decedent leaves dependents no refund is made, since the plan embodies provisions for their care, but if there are none, a refund is made to the heirs or the estate. If a fireman in service at age 57 is unmarried or a widower he may receive a refund, with compound interest, of his contributions for the widow's annuity, but if he marries thereafter his widow will not be entitled to any allowance. Under the Pittsburgh plan there is no refund in case of death, but if a member withdraws or is dismissed, his contributions are returned to him without interest.

Provision for Dependents

WITHOUT exception these systems make provision for widows and dependent children of members, and quite frequently it is provided that if there are no dependents of these categories, a pension will be paid to a dependent father or mother of the deceased. Under the Milwaukee system the funds for the care of dependents are financed as carefully as those for the firemen themselves, the employees and the city together contributing for the widows' allowances, and the city alone contributing for the children's allowances. Under this system in case of death from ordinary causes the widow's allowance is the annuity purchasable by the accumulated contributions for this purpose. If death occurs in the line of duty the widow receives an extra allowance sufficient to bring the annuity up to what it would have been had her husband lived and continued his contributions up to the age of 57, or to such time thereafter as he would have completed 15 years of service. For each child under 18 there is an allowance of $10 a month, or $15 if the mother is not living. In the case of a duty death, the combined allowances of mother and children may reach a maximum of 75 per cent of the decedent's final salary, but in case of a death from ordinary causes they may not exceed 50 per cent of the final salary. The ordinary widow's allowance is continued throughout her life, but the extra allowance given in case of a duty death is discontinued if she remarries.

The plans of the other cities present certain variations. Pittsburgh has no pensions for dependents, but pays a death benefit of $1,100. Detroit and New Orleans do not pension dependents unless the death was due to injuries received in the service, but New Orleans in any case pays a death benefit of $1,000. The other systems all provide pensions for the widow, whether or not the death was due to the performance of duty, but in several cities the pension is larger in case of a duty death. They also either give a monthly allowance for the benefit of each child under a stated age, or provide that the pension shall go to the children if there is no mother living, or be continued to them if the mother dies before they have reached the age limit. In all these systems the widow's pension is limited to the duration of her widowhood.

Retirement Systems for Police and Fire Departments, Combined

IN EACH case these systems were formed by combining existing systems covering the separate departments, and none of the plans has been in operation long in its present form. The oldest is the Washington system, established in 1916. Newark combined its two systems in 1920 and Los Angeles in 1923. In Los Angeles, however, the system was radically changed in 1926, the new plan commencing to operate in January, 1927. The Los Angeles scheme covers only the uniformed forces of the two departments, including the policewomen, the Newark plan takes in also the clerical and administrative officers, and in Washington the system, in its present form, includes the uniformed members of the fire department, the metropolitan police force, the street railway crossing officers, the White House police, and the United States park police.

Administration

THE Los Angeles system is managed by a citizens' board of 5, appointed by the mayor, and the Newark system by a board of 5 consisting of the mayor and the chief financial adviser of the city, ex officio, 1 policeman and 1 fireman, each elected by his fellows, and 1 nonoffice-holding citizen, elected by the 4 other members. In Washington the system is managed by a board of three, consisting of the corporation counsel of the District, and one member each from the police and the fire department, designated by the District commissioners, who are authorized to change the personnel of the board from time to time, and are further empowered to make, modify, and amend the regulations and rules of procedure for the board.

Source of Funds

ALL three systems are contributory. In Los Angeles the members, since January 1, 1927, have contributed 4 per cent of the salary, in Newark they contribute 2 per cent of the salary, except those who were 35 years of age or over on entering the service, for whom the contribution is 4 per cent, and in Washington the contribution is 2½ per cent of salary, raised in 1924 from 1½ per cent.

In Los Angeles the city makes an annual contribution of several different sums. It appropriates first a percentage of the pay rolls of the two departments sufficient to cover the liability incurred for that year's services; second, a deficiency contribution of $635,000, which is to be continued for 36 years to liquidate the accrued liability; and, third, it pays into the fund all fines and deductions from the salaries of members of the two forces, all proceeds from the sale of unclaimed property, interest, and rewards and donations. The amount of the two appropriations is raised by taxation. In Newark the city contributes annually a sum equal to 4 per cent of the combined pay rolls of the two departments, and also turns into the fund all fines imposed on members, all deductions from their salaries for absences or lost time, and half of all rewards. If at any time the pension fund should prove inadequate to the demands upon it, the city is to include in any tax levy a sum sufficient to meet its requirements for the time being. Under the Washington system no specific contribution is required

from the District, but if at any time the fund is insufficient to meet the expenditures authorized, the District commissioners are to direct that such amounts, appropriated from the general revenues of the District, are to be paid into it as may be necessary. Also, the fund is to receive all fines imposed for disciplinary purposes upon the members of the two forces, all rewards, donations, and the net proceeds of the sale of unclaimed property in custody of the clerk of the police force.

Cost of Administration

IN LOS ANGELES the city meets the cost of administration, in Newark it is paid from the fund, and in Washington it is carried as part of the general expenses of the departments.

Conditions for Retirement

SERVICE or superannuation retirement.—Los Angeles has no age qualification for retirement, Newark permits it at 50 and requires it at 65, and Washington sets 60 as the age at which it may be permitted. Los Angeles requires 35 years of service as a qualification for the full retirement allowance, but permits retirement with a smaller allowance after 25 years of service. For those in service before the adoption of the present system, 30 and 20 years of service are required. Newark sets 20 years of service as a minimum, while Washington has no service requirement.

Disability retirement.—All three systems permit retirement on allowance for duty disability, without regard to age or length of service. Medical certification, based on examination, is requisite, and reexamination may be required from time to time. The Los Angeles and the Newark systems make no provision for ordinary disability, but the Washington plan permits retirement on allowance in case of permanent disability arising from ordinary causes if the member has reached age 55 and has given 25 years of service.

Retirement Allowances

LOS ANGELES gives those who retire after 35 years of service a pension of two-thirds of the average salary received for the last three years before retirement. If the service was for 25 years or longer, but under 35, the pension is one-half of the average salary for the last three years, with an addition of 1⅔ per cent of such salary for each year over 25. For those who were in the service before the present plan was adopted, these allowances are paid for service of 30 and 20 years, respectively. The maximum pension for those entering the service after this plan was adopted is $1,800; there is no minimum, except as determined by the amount of the salary. For disability retirement, the board may fix the pension in its discretion according to the degree of disability, except that it may not be less than 10 nor more than 90 per cent of the salary received at the time of retirement.

In Newark the allowance for service and for duty disability retirement is the same—one-half of the salary received at the time of retirement. In 1926 the lowest salary paid was raised to $2,500, so

that thereafter the minimum pension would be $1,250 a year; no maximum is set.

In Washington the allowance, whether for service or disability retirement, must not exceed one-half the salary received at the time of retirement, without maximum or minimum, except as determined by the amount of the salary.

Refunds

NO REFUND of contributions is provided for in any of these systems.

Provision for Dependents

UNDER the Los Angeles system the widow of a pensioner, or of an active member eligible for retirement, or of a member dying from injuries or illness due to the discharge of duty, receives during widowhood a pension equal to one-half the decedent's average annual salary for the last three years of service, with an additional allowance for children under 18 until they marry or reach that age. Except in the case of a duty death, the widow must have been married to the decedent for at least a year before his death in order to receive the pension; if the decedent is a pensioner, she must have been married to him for at least a year before he left the service. If there is no widow, the pension will be paid to a child or children under 18, or to dependent parents.

In Newark, the widow of a retired or active member, provided she was married to the decedent before he reached the age of 50, receives a pension of $1,000 a year during widowhood. If there is no widow, a pension of $25 per month may be paid to children under 16, or to dependent parents.

In Washington the widow of a pensioner or member in active service is given a pension during widowhood of $60 a month, with an allowance of $10 a month for each child under 16.

Safety Movement and the International Labor Conference

By Leifur Magnusson

AN AMERICAN observer at the eleventh session of the International Labor Conference (Geneva, May 31 to June 16, 1928), which dealt with the question of safety and accident prevention, might well be impressed with the lack of direct discussion of the safety movement as we know it in the United States. True, there were at the conference some of the outward appearances of a safety movement: There were horrifying pictures of accidents; and some that provoked comedy and mirth rather than caution. There were motion pictures of safe and unsafe methods of work. There was line and verse of descriptive matter. There were statistical tables. But there was certainly not the zest for information, leaflets, pamphlets, dodgers and handbills, pictures and postal cards, whole volumes of papers and proceedings, such as are crowded into an American safety gathering.

Safety at the International Labor Conference was not discussed from the point of view of information, fact finding, and personal experience. The conference was not a safety-revival meeting. It had a larger and different responsibility: To bring the safety movement down from the region of mere fact and fancy into that of deliberate application as part of the regulations which modern governments have found necessary to apply to industry. Half of the conference itself, it should be remembered, consists of governmental representatives and half of safety "experts" from industry itself; namely, workers and employers who are themselves at once victims and beneficiaries of the safety movement. The members of the conference were already fairly conversant with the subject of safety and were definitely "sold" on the movement. They were, therefore, not gathered to exchange safety enthusiasm, but rather to discover if possible some common denominators of approach on the part of 55 governments which are represented in the International Labor Organization.

That such was the task of the conference is readily understood from a brief statement of what actually happened.[1] A general discussion of the safety movement took place on May 31 and June 1. Some 15 or 20 speakers during those two days told all about the merits of the safety movement in their respective countries. (All of which certainly should have sounded familiar to any listening Americans.) But the real business was not done in the conference as a whole, but by three committees—one of a general character and the other two dealing with special aspects such as safety in dockwork and use of automatic railroad couplings. A questionnaire was agreed upon as the basis of a recommendation to be adopted at the next session of

[1] There was also up for discussion at the conference the question of minimum wage adjusting machinery involving important governmental policies, covering which a draft convention was adopted.

the conference, in 1929, and two resolutions were accepted, one asking the International Labor Office to complete its information and statistics respecting safety provisions in the different countries, and the other recording the view of the conference regarding the necessity of close collaboration between workers and employers in the safety movement. The issues raised were not those of information and publicity. On that point there was agreement on all hands. The points of controversy were as to method. Does the question lend itself to the adoption of an international treaty or recommendation? Or is it rather something which can not be so definitely fixed and waits upon psychological and practical considerations? The conference ultimately decided that the safety movement had so deeply penetrated the legal and regulative processes of industry in the member States as to permit of the recommendation of specific details of application. Hence the adoption of a questionnaire as the basis for a recommendation next year. Hence, also, the decision for a questionnaire to serve as the basis of a draft convention with respect to dockers' safety. Here, too, the conciliation of the interests of maritime workers in this aspect of the safety movement had to be dealt with before employers were willing to go along with the workers in their demand that the general conference, rather than an exclusive joint maritime commission, should lay down standards for safety in dock work. All through the conference, therefore, ran the red line of practical governmental procedure and the requirements of employers and workers in their relations with one another.

There are two classes of reasons to account for the lack of safety propaganda and discussion as such at the conference. The first are reasons arising from the nature of the International Labor Organization itself, the second are those deriving from the development of safety attained in the chief industrial member States.

Take the situation in the Western European countries. Here the workmen's compensation movement and its twin, the safety agitation, took shape in the late eighties and had attained widespread acceptance about 1900. This was at a time when the American safety movement was the merest infant. The movement in the United States is generally dated from about 1905 and, as is well known, did not receive its greatest stimulus until workmen's compensation likewise became an accepted fact. In Europe the absence of industrial safety began to cost money very much earlier than in this country. The consequence has been that on the whole the safeguarding of machinery in Europe reached a certain state of adequacy somewhat in advance of that in this country, and has maintained its equality, if not superiority, to American practices. A glance at European regulations respecting the safeguarding of machinery, the requirements of factory inspection, and duties placed upon workers and inspectors of safety, leads one to the general conclusion that machinery is as well guarded in European industry as it is in the United States. Some countries prohibit the sale of unguarded machinery, as in the Austrian regulations since 1907. That Austrian regulation was carried over and strengthened in the Czechoslovak legislation of 1924. The Danish act on the subject dates from 1913 and requires that "no contractor or dealer shall supply any machines, or part of machines, the use of which is forbidden" by law, nor may any machines be sold "without

their being fitted with the properly arranged guards." This, it is true, goes farther than is the case in most of the countries, although Germany and Great Britain have somewhat similar proposals in legislation under consideration. The essential point is that the safeguarding of machinery in Europe has developed simultaneously with a system of workmen's compensation, and has reached a state of adequacy and efficiency equal to if not in advance of that in American industrial practice.

The superior technical training and efficiency of the factory inspectors in the European countries has also made less necessary the familiar safety campaigns and publicity which have proved so effective in the United States. European factory inspectors are for the most part trained engineers and technicians to whom much greater discretion and authority have been vested than have been given to factory inspectors in the United States as a whole. The exercise of advice, suggestion, and authority by these inspectors has had its effect in bringing about a greater degree of safety in the installation, handling, and operation of machines and mechanical apparatus of every kind in industry. The educational propaganda of these technicians has not been without its effect in promoting safe practices.

In short, the approach to the safety movement in Europe has been through governmental regulation, indirectly brought about through workmen's compensation and directly through the general factory-inspection laws enforced by well-trained and efficient factory inspectors having rather wide powers of discretion in requiring safe machinery and safe practices.

Aside from these factors in the background of the European safety movement the nature of the International Labor Conference is such as to militate against the use of the ordinary methods of publicity and propaganda for safety as known in the United States. Because the organization is official, standing orders committees, credential committees, and technical legislative committees play an important part and take and consume an inordinate amount of time. These committees face the problem of adapting the practices of different countries to an international mold in so far as possible. They must spend their time in finding common bases and points of agreement from information analyzed in advance by the International Labor Office and in the hands of the delegates at the conference. The work of the delegates in the committees then becomes one of technical application of known details rather than that of general discussion and presentation of experiences not known to the others.

INDUSTRIAL RELATIONS AND LABOR CONDITIONS

Economic Situation of the American Indians

IN A study of the economic and social conditions of the American Indians, made by the Institute for Government Research at the request of the Secretary of the Interior,[1] it was found that "an overwhelming majority of the Indians are poor, even extremely poor, and they are not adjusted to the economic and social system of the dominant white civilization." This is contrary to the impression entertained by many people that the Indians as a race are fairly rich.

It is pointed out in the study that the existing statistics regarding the property and income of the Indians can not be accepted as accurate, and in some cases may be very inaccurate, but they give a picture of the general situation which seemed to the investigators a fair reflection of the conditions which they observed.

According to the data available, which were based on a total Indian population in 1926 of 188,363 in the jurisdictions covered by the survey, 13.8 per cent of the Indians lived in jurisdictions where the per capita value of all property was less than $500; 41.9 per cent where it was less than $1,000; 67 per cent where it was less than $2,000; and 78.7 per cent where it was less than $3,000. These valuations are said to include practically everything owned by the Indians—tribal property, individually owned land, houses and furnishings, outbuildings, agricultural implements, livestock, and funds.

Tribal property accounted for 41.4 per cent of the total value of the property owned by the Indians and individual property 58.6 per cent. Of the tribal property, 13.6 per cent was in land, 22.5 per cent in timber and stock, and 5.4 per cent in funds. Of the individual property, 38.5 per cent was in land, 3.4 per cent in timber, 6.9 per cent in funds, 4.2 per cent in homes, 1.6 per cent in wagons, etc., and 4.2 per cent in stock and poultry.

Data for total income, tribal and individual combined, showed that almost one-fourth of the Indians in the territory studied had a reported per capita income of less than $100 a year and 71.4 per cent of less than $200; only 2.2 per cent had incomes of $500 or more. The last mentioned were the Klamath Indians with a per capita income of $1,523 and the Osage Indians with a per capita income of $19,119.

The individual income of the Indians is derived from returns from the leasing or selling of their lands, from per capita payments from tribal funds, and from what they produce by their own efforts. In exceptional cases they are given rations by the Government. In other words, some of their income is earned and some unearned, a distinction which is considered highly important from the economic

[1] Institute for Government Research. The problem of Indian administration. Report of a survey made at the request of Hon. Hubert Work, Secretary of the Interior, and submitted to him, Feb. 21, 1928. Washington, 1928.

and social standpoint. Two-thirds of the total Indian population studied was accredited to jurisdictions where the per capita earned income was reported to be less than $100 a year, and more than 19 Indians out of 20 were accredited to jurisdictions where the earned income was less than $200.

Occupations

DATA secured by the investigators from a group of 12,353 pupils in the Indian schools showed that the fathers of over 65 per cent of them were farmers; 15.8 per cent ranchers, and 6.9 per cent laborers. It is pointed out that some of the latter may have been working on farms. The report states that although fathers with more than one child in school were obviously counted more than once, "the concentration is so striking, however, that counting each father but once could not change the general character of the occupational distribution." The figures obtained were as follows:

OCCUPATIONAL DISTRIBUTION OF THE FATHERS OF A GROUP OF 12,353 INDIAN SCHOOL CHILDREN

Occupation	Number	Percentage distribution	Occupation	Number	Percentage distribution
Farmer	8,056	65.2	Engineer	47	0.4
Rancher	1,955	15.8	Blacksmith	46	.4
Laborer	856	6.9	Fisherman	43	.3
Carpenter	151	1.2	Silversmith	38	.3
Railroad employee	142	1.1	Miller	33	.3
Lumberman	139	1.1	Mailman	32	.3
Policeman	91	.7	Oil worker	21	.2
Miner	85	.7	Interpreter	20	.2
Clerk	78	.6	Dairyman	19	.2
Mechanic	73	.6	All others	319	2.6
Minister or missionary	60	.5			
Merchant or trader	49	.4	All occupations	12,353	100.0

These figures are considered fairly representative, since they do not include either the very young or the very old, the fathers of school children being as a rule men in the prime of life with their earning capacity at its best. More than two-thirds of the pupils from whom the information was obtained reported themselves as full-blooded Indians.

Although the majority of the Indians are engaged in agricultural occupations, and their principal economic resource is their land, the number that can be classed as farmers in the ordinary sense of the word is reported to be very small. In fact, the agricultural activities of the great majority of them are said to be "considerably below any satisfactory standard for subsistence farming," the crops raised often not greatly exceeding those raised by suburban white gardeners who cultivate their gardens in spare time. Cows, poultry, and hogs are rarely kept owing to the fact that some one must stay at home to care for them and the Indian tendency is for the entire family, including neighbors if there are any, to go on an errand or trip of any kind. However, it should be noted that many of the Indians are living on land from which a trained agriculturist could scarcely obtain a living, for much of the land owned by the Indians is arid, semiarid, or moun-

tainous, valuable chiefly for grazing and often capable of little development for other agricultural purposes.

Native handicrafts are of considerable economic importance in a few tribes and most tribes are said to give some attention to them, although in some cases these arts have almost entirely disappeared. Among the products constituting important sources of income in different tribes are rugs, blankets, pottery, baskets, beadwork, and silver jewelry. Many other things are made, such as pipes, drums, rattles, bows and arrows, feather ornaments, charms, amulets, and necklaces of shell and stone, but these are of little consequence as sources of income since they are of interest to white people only as curios. In most of the native industries raw materials which cost little or nothing can be used, such as reeds, roots, osiers, grasses, corn husks and other vegetable fiber, clay, the skins of wild animals, and native woods and minerals. With the exception of the silver jewelry most of the articles of commercial importance are made by the women.

These native industries are said to have received little encouragement from the Government, due principally to "a lack of understanding of their economic possibilities." In the opinion of the investigators "it is difficult to see how some Indians are ever to achieve a reasonably satisfactory standard of living in their present locations without the fostering and development of these native industries." They believe that the dangers involved in the development of industries pursued chiefly by the women, such as lessening too much the responsibility of the men for the support of their families, can be avoided in great measure if proper safeguards are provided.

Only a small number of women are gainfully employed outside of their homes. The majority of these are engaged in domestic service, or, seasonally, in the harvesting of fruits and other farm crops and in fruit, vegetable, and fish canneries.

Living Conditions

THE standards of living in nearly all Indian communities were found to be low. In this connection the report states:

> A relatively small number of Indians make the transition from primitive to civilized life successfully; the great majority tend to shift from primitive ways to the ways of the poorest and least enterprising of the white population. * * * There are a few homes of distinct comfort, a few that are like the more modest homes of the white professional class, and many more that do not compare unfavorably with the homes of small wage earners in our villages. But all these are exceptional, not typical. The race in general still lives in primitive dwellings, in tents and shacks, and in small houses poorly constructed, ill kept and in bad repair.

There is much overcrowding and sanitation is lacking. Diseases of a chronic nature are reported to be prevalent. The food supply is usually insufficient and lacks balance, and the women as a rule do not know how to prepare it properly. The women in general are said to be poor home makers and their idleness in many tribes "constitutes a barrier to the improvement of home conditions, especially when associated, as it often is, with improvidence." The essential household arts are relatively undeveloped, with the exception of sewing. Neither the men nor the women know how to spend their

incomes wisely, often buying what strikes their fancy without regard to the essentials for family welfare.

Vocational Training

THE courses of training in the Indian boarding schools (which still predominate in the school system maintained by the Government for the Indian children) are supposed to be essentially vocational, and each school is directed to establish a vocational guidance committee. However, the report points out that "very little of the work provided in Indian boarding schools is directly vocational in the sense that it is aimed at a specific vocation which the youngster is to pursue, or based upon a study of known industrial opportunities, and vocational direction in the form of proper guidance, placement, and follow-up hardly exists at all." The report further states in this connection:

> From the point of view of economic development it is clear that the schools have not done as much as they might do. Lack of any preliminary occupational survey of the Indian field, entrenchment of an institutional scheme which stresses production rather than genuine vocational training, an almost complete absence of qualified vocational teachers, and a lack of the necessary guidance, placement, and follow-up machinery, make the vocational program of the boarding schools relatively ineffective. Little attempt has been made in the past to relate the work of the school to the industrial needs of the country. "Vanishing industries," such as harnessmaking or blacksmithing, are frequently given as large a place in the school program and employ as many or more pupils as do such industries as auto mechanics, plumbing, or electrical work that furnish a much greater opportunity for the pupil to secure gainful employment after he leaves school. Pupils are also in some cases taught a vocation that they will have little opportunity of pursuing when they return home to their own reservations, such as baking and tailoring.

Moreover, "the training given under the present system does not often go far enough to enable the student to become a skilled workman even after a reasonable period of experience. This is one of the gravest faults of the system. Students are generally sent out from school with a training inadequate to enable them to earn a living in competition with white workmen." Then, too, it is said that the students sometimes have difficulty in holding jobs secured after leaving school because of bad work habits acquired in school, such as slowness resulting from their having been given tasks too heavy for them or from not having enough work to keep them busy.

To remedy the situation the investigators believe the following steps to be necessary:

> The first need in industrial and agricultural education in Indian schools is a survey to find out what Indian young people are doing when they get out of school and what the occupational opportunities for them are. This involves a study of new industries as well as the adaptation of old ones, and the establishment of a training program based upon the findings. * * * It is necessary not only to relate the work of the school to the industrial needs of the nation as a whole, but also, as far as possible, to the needs of that particular part of the country in which the pupil may reasonably be expected to reside.

Until recently no attempt has been made in the Indian schools to fit girls for wage earning outside of domestic service. A few of the large nonreservation schools are now giving training in teaching, nursing, and clerical work, but the report states that this training does not equip the graduates for competition with white girls from

schools of recognized standing nor prepare them for entrance into colleges and technical schools.

Apparently there has been little educational work among adult Indians. On some of the reservations a "5-year program" is in progress, which the report defines as a "practical effort to stimulate the people to self-support by the creation of habits of industry and by teaching them how to utilize the opportunities at hand." Most of the Indians on reservations where the plan is being tried out are without any great tribal or personal resources, and their future economic status depends on their own efforts. The men are organized into farm chapters and the women into auxiliary chapters, this form of organization being utilized for "instruction, encouragement, and the developing of the qualities of initiative, perseverance, foresight, and regularity of work. The program is a venture into adult education with the chief objective the development of character." At the chapter meetings, which are attended by the superintendent in charge of the program and his assistants, in the respective localities, the Indians participate in the discussions of their problems, and "thus the seed is sown for the development of real Indian leadership." It is said that the methods used are sound and that definite results are being accomplished. However, the movement is being retarded by lack of facilities.

The report contains detailed and constructive suggestions for improvements in the methods of dealing with the Indian problem.

British Coal-Mining Industry in 1927

THE English secretary of mines has recently issued the seventh annual report of the mines department, giving a review, with detailed statistics, of conditions in the mining and quarrying industries in 1927. The Ministry of Labor Gazette (London), in its issue for August, 1928, gives a summary of these data concerning the coal-mining industry.

Owing to the prolonged stoppage in 1926, conditions in that year were abnormal, and comparisons are made with 1925. The total production of coal in 1927 was 251,250,000 tons, an increase of about 8,000,000 tons over the output for 1925. Exports were 72,000,000 tons, an increase of about half a million tons over 1925. The number of wage earners grew steadily during the early part of the year, reaching its maximum in May, when it stood at 1,031,000.

A part of the activity of the early months was due to the need for making up the stocks exhausted during the long stoppage and meeting outstanding orders. When this was accomplished, work fell off, and it became evident that the industry could not employ its full force of workers. The number of days lost through want of trade amounted to 9.61 in the first quarter of the year, and to 11.38 in the second. By the end of the year the number of wage earners in employment was 969,500, or only about 3,000 more than at the beginning of the year, when the mines had not fully recovered from the stoppage. Some 502 mines in which work had been resumed after the end of the 1926 dispute and which employed 55,600 workers, had been closed again.

By far the larger proportion of the decrease in the number of wage earners on the colliery books occurred in the chief exporting districts (including South Wales, Durham and Northumberland, and Scotland). Not only was British coal forced to fight against foreign coal, which, during the stoppage of 1926, had captured our markets and was anxious to keep them, but in a number of cases those markets were partly closed to Great Britain because of the long-term contracts for foreign coal entered into during 1926.

In the report of the Samuels' Commission, as in some earlier reports, emphasis was laid on the need for reorganizing the industry and adopting the best modern methods of production. (See Labor Review, May, 1926, p. 52.) Apparently not much progress has been made along this line, for, according to the report for 1927, while pneumatic picks and drills are being increasingly introduced in the mines of western Europe, the use of such implements in Great Britain is still largely in the experimental stage. "There were, in fact, in 1927, only 5,679 pneumatic picks and drills in use in this country at 557 mines. A considerable proportion of these machines are used for driving headings and for boring shot holes, and little progress has yet been made in their use for coal getting."

Wages, Prices, and Profits

THE report makes it very clear that the results of the industry during 1927 were unsatisfactory to all concerned. Output increased and cost of production decreased, yet the workers had longer hours, lower wages, and less regular employment, while the owners, as a whole, produced at a loss.

The average earnings per shift of all classes of workers in and about coal mines, of all ages, amounted to 10s. 1d.[1] in 1927, as compared with 10s. 6d. in 1925 and 10s. 8d. in 1924; they were approximately the same as in 1922 and 1923. For the last quarter of the year, however, the figure was about 9s. 7d. The average number of shifts worked per person during the year was 244. This compares with 251 in 1925, 260 in 1924, 266 in 1923, and 251 in 1922. As a result the average earnings per person for the year were £122 12s. 2d. as against £131 15s. 9d. in 1925, £138 4s. 7d. in 1924, £134 6s. 1d. in 1923, and £125 2s. in 1922.

In addition to the reduction in earnings, the workpeople were called upon also to work a longer shift. The result was a substantial increase in the average output per man-shift and a corresponding decrease in the cost of production, even apart from any wage reduction. The average output per man for the whole country rose from 18 hundredweight in 1925 to over 20.5 hundredweight in 1927, which is equal to a saving of over 12 per cent in labor costs.

Costs other than wages fell on the average by 2½d. per ton, or 4 per cent, and wages costs by 2s. 2d., or 17 per cent, giving a total reduction of 2s. 4½d. per ton as compared with 1925. Most of these savings, however, were offset by a fall of 2s. per ton in the average proceeds, and the net result was only to reduce the average loss of 10¼d. per ton (excluding subvention) in 1925 to 5¾d. per ton in 1927. Actually the costs of production fell from an average of 18s. ¾d. in 1925 to 15s. 8¼d. in 1927, and proceeds from 17s. 2½d. to 15s. 2½d. If the first three months were excluded (when there was no reduction on 1925, and the industry, as a whole, showed a credit balance of 1s. 2d. a ton), the fall in proceeds would be much greater; in the three succeeding quarters the average proceeds fell successively to 15s. 1d., 14s. 2d., and 13s. 11d., this last figure representing a drop of 3s. 3d. a ton from the average of 1925.

[1] At par, pound=$4.8665, shilling=24.33 cents, penny=2.03 cents; average exchange rate for 1925 and 1927 was about par.

Scarcity of Skilled Labor in Germany

THE lack of skilled labor in Germany is discussed by J. Klahr Huddle, American consul at Cologne, Germany, in a report dated July 25, 1928. He states that the scarcity of this class of labor has already become a serious problem in many branches of industry. Although there is a comparatively large number of unemployed workers, there seem to be very few among them who are skilled.

On May 22, 1928, a conference to consider this situation was held under the auspices of the provincial labor office of the Rhineland, to which were invited chambers of craftsmanship of the Rhine Province, the industrial unions of employers, the trade-unions, and the members of the administration committee of the provincial labor office of the Rhineland. At this conference attention was called to the fact that the lack of skilled labor will become still more serious in the next few years as a result of the decline in the birth rate during the war. In this connection the report states:

> In comment upon the reduced birth rate during the war, it was mentioned that the number of young people to be dismissed from school declines as from 1929, dropping in 1932 to 50 per cent of the 1913 figure, and will only reach its normal extent again in 1934. Also, since the war the birth rate in Germany has slowly but surely decreased.

The report contains the following statement in regard to remedial measures suggested at the conference:

> It is necessary that the recourse of young people dismissed from school to work which does not require skilled training should be restricted. The wages for apprentices will have to be adapted to those for young assistant workers. It was brought out that Dusseldorf industrial circles had already introduced a system of premium wages for apprentices. In special cases they will have to be assisted by public institutions. If conditions permit, girls may be taken on in replacement of boys with due regard to their suitability, as the scarcity will not be so noticeable in the case of girls. Also, young people whose capacity of working is restricted may be taken on to a greater extent than heretofore. The provision of places of apprenticeship with board and lodging will facilitate the taking on of young workers from outside of the district.
>
> The loss in quantity has to be replaced by quality. This necessitates a more careful selection of the labor power to be taken on according to the methods of modern vocational advice with the assistance of schools, physicians, and psychotechnic examination of suitability, and also an improvement in quality by careful training and skilling in all professions. It was advocated that a proposed law on professional training, the draft of which has been laid before the public, shows ways and means for an improvement in professional training and should be forced through without regard to individual interests as soon as possible. In those professions where there is no possibility of promotion, such opportunities should be created, especially in the industry, where steps have already been taken in this direction by the introduction of examination for special workmen.
>
> It was pointed out from all sides that vocational advice should be assisted and supported by economic circles in its efforts to carry through a sensible professional skilling and upbringing of the rising generation.

PRODUCTIVITY OF LABOR AND INDUSTRY

Labor Requirements and Costs in Cotton Harvesting in Oklahoma and Texas

THE different cotton-harvesting methods used in certain districts of Oklahoma and Texas, together with labor requirements and costs, are discussed in a report of the United States Department of Agriculture.[1]

In the newer sections of Oklahoma and Texas it is difficult in some years to harvest cotton by picking, since many of the bolls fail to mature because of either late spring or early fall frosts, the frost making the stems so brittle that the bolls are easily broken from the plant. This difficulty can be avoided by employing the snapping method of harvesting. When cotton is picked the matured seed cotton is extracted from the open bolls and the hulls left on the stalks. When it is gathered by snapping, both open and unopen bolls are stripped from the plant. Also, the snapping method permits of the use of unskilled labor to a greater extent than picking, and many workers who are slow pickers make fair progress in snapping. For these reasons, part of the crop was snapped, but as production increased labor became relatively more difficult to obtain and it became necessary to adopt some rapid and low-cost method. This led to the introduction of the cotton sled, which is a wooden box, on runners or wheels, usually with five or more finger-like attachments of steel or wood 1 inch or more in width and placed about an inch apart. Some sleds, however, have only a single V-shaped opening through which the cotton stalk passes. The sleds used in the districts studied were made by the farmers themselves or by local blacksmiths at an average cost of about $20.

It was found that on the average about 50 hours of labor were required to pick enough cotton to make a 500-pound bale of lint in the Lubbock district; about 70 hours in the Hobart and Chickasha districts, and about 80 hours in the Stillwater district. The amount of labor necessary to snap enough seed cotton for a bale of 500 pounds of lint varied from about 33 to 55 hours in the districts studied. To sled enough cotton for a 500-pound bale of lint required an average of 5.3 hours of man labor in the Lubbock district and 8.5 hours in the Hobart district. Table 1 gives the detailed figures of the hours of labor required for harvesting a 500-pound bale of cotton by the different methods.

[1] United States. Department of Agriculture. Requirements and costs for picking, snapping, and sledding cotton in western Texas and Oklahoma. A preliminary report by A. P. Brodell and M. R. Cooper. Washington, June, 1927.

TABLE 1.—HOURS OF MAN LABOR REQUIRED FOR HARVESTING A 500-POUND BALE OF COTTON

State and producing district	Picked cotton		Snapped cotton		Sledded cotton	
	Usual range	Average	Usual range	Average	Usual range	Average
Oklahoma:						
Chickasha	60- 80	72.8	40-52	47.1		
Hobart	60- 80	68.2	33-52	43.6	5-16	8.5
Stillwater	75-100	80.4	50-73	55.1		
Texas: Lubbock	43- 56	48.7	26-44	33.7	4- 7	5.3

It is stated that usually from 1,500 to 1,600 pounds of picked seed cotton and from 2,000 to 2,200 pounds of either snapped or sledded cotton are required for a 500-pound bale of lint in the Oklahoma districts. In the Texas district, due to more extensive growing of varieties of cotton having a relatively high turnout, the requirements for a 500-pound bale of lint are less, being from 1,300 to 1,400 pounds of picked, from 1,800 to 2,200 pounds of snapped, and from 1,800 to 2,100 pounds of sledded cotton. The quantity of snapped or sledded cotton required for a 500-pound bale of lint is influenced by the percentage of open bolls included and the quantity of foreign matter gathered.

It is reported that in a given time an average hand can usually snap enough seed cotton to make about 50 per cent more lint cotton than he can pick, while one man and a team of horses can sled enough cotton to make between six and seven times as much lint as an average hand can snap. Most of the labor utilized for sledding cotton was furnished by the farmer and members of his family. The usual sledding crew in the Lubbock district of Texas consisted of one man and two horses, and in the Hobart district of Oklahoma of two men and two horses. The fact that the regular farm labor could harvest the crop on most farms by sledding in 1926, the report states, was an important consideration in connection with the low cotton prices prevailing in that year, since the harvesting operation did not require an actual outlay of cash. The bulk of the picked and snapped cotton was gathered by hired labor in the Chickasha, Hobart, and Lubbock districts, but in the Stillwater district much of it was gathered by the regular farm labor.

In figuring the cost of harvesting by the sledding method, labor was charged in all districts at the rate of $3 per day for a man and $1 per day for a horse. The average cost for picking 100 pounds of seed cotton varied from $1.17 in the Lubbock district to $1.44 in the Chickasha district. The cost of snapping this quantity was 72 cents in the Lubbock and the Chickasha districts and 75 and 78 cents, respectively, in the Stillwater and the Hobart districts.

All ginning costs were cash expenses, as the cotton was custom ginned. For ginning picked cotton in 1926 the Oklahoma gins charged 30 cents per 100 pounds of seed cotton, and 45 cents for snapped and sledded cotton, with $1.90 additional for bagging and ties. In Texas, ginning costs varied considerably, declining with the decline in cotton prices. At the beginning of 1926, 30 cents per 100 pounds for picked cotton and 40 cents for snapped and sledded cotton,

with $2 per bale for bagging and ties, were representative charges. The average cash expenses for harvesting and ginning picked cotton varied in the four districts from about $14 to $25 per bale. The cash cost of harvesting and ginning snapped cotton was somewhat higher than for picked cotton. No cash expenses were reported for harvesting sledded cotton; the cost of ginning averaged $9.84 per bale in the Lubbock district and $11.70 in the Hobart district, no figures being given for the other two Oklahoma districts.

The total cost of harvesting and ginning a bale of picked, snapped, or sledded cotton is shown in Table 2.

TABLE 2.—COST OF HARVESTING AND GINNING A BALE OF COTTON—PICKED, SNAPPED, AND SLEDDED

State and producing district	Harvesting cost			Ginning cost			Total		
	Picked cotton	Snapped cotton	Sledded cotton	Picked cotton	Snapped cotton	Sledded cotton	Picked cotton	Snapped cotton	Sledded cotton
Oklahoma:									
Chickasha	$22.00	$14.58	----	$6.48	$11.02	----	$28.48	$25.60	----
Hobart	21.67	16.19	$3.61	6.54	11.24	$11.70	28.21	27.43	$15.31
Stillwater	22.50	15.69	----	6.56	11.31	----	29.06	27.00	----
Texas: Lubbock	16.18	14.04	2.55	6.15	9.80	9.84	22.33	23.84	12.39

LABOR TURNOVER

Labor Turnover and Length of Service in American Factories

BELOW is given the usual quarterly summary of factory labor turnover experience compiled by the Metropolitan Life Insurance Co. and cooperating agencies. With it are briefly shown the results of a recent length-of-service census made under the same auspices.

After the usual summer slump in industry, the average accession rate rose in August to 53.4 per cent (equivalent annual basis), which is higher than at any other time in the 20 months shown by Table 1 below. Another indication of increase in industrial activity is the voluntary-quit rate, averaging 31.9 per cent, which is higher than in any other month since September, 1927. The lay-off rate, 5 per cent, is rather high in comparison with earlier months of this year, but is lower than in any month of 1927.

The length-of-service composition of industrial work forces is important, not only as a guide to the interpretation of labor turnover records, but also because of its bearing upon certain general economic problems, such as the productivity of industry. In the sample length-of-service census cited in the table below, about 1,000 establishments were covered. The agencies which cooperated to make this census were (1) Metropolitan Life Insurance Co., (2) Bridgeport (Connecticut) Manufacturers' Association, (3) Associated Industries of Massachusetts, (4) Bureau of Business Research, University of Michigan, (5) New Jersey State Department of Labor, and (6) Wisconsin Industrial Commission.

Inequalities in geographical distribution of the manufacturers making the returns were remedied, in so far as possible, by using for the final combination (last line of Table 2) weights based upon the 1925 Census of Manufactures. Certain further details, showing, for example, the percentage for industries, for localities, and for a finer classification of the length-of-service groupings, may be obtained from the cooperating agencies mentioned above.

TABLE 1.—AVERAGE TURNOVER RATES DURING 1927 AND 1928 IN SELECTED AMERICAN FACTORIES [1]

[Each month's rates are stated on equivalent annual basis]

Month	Accession rate		Total separation rate [2]		Voluntary-quit rate		Lay-off rate		Discharge rate	
	1927	1928	1927	1928	1927	1928	1927	1928	1927	1928
January	36.3	33.4	40.8	27.8	23.1	15.7	12.3	3.6	5.4	8.5
February	41.7	31.6	36.9	27.6	21.8	15.1	9.6	4.6	5.5	7.9
March	43.2	35.9	42.5	32.8	29.8	20.1	6.4	4.3	6.3	8.4
April	47.5	40.0	48.3	38.2	32.4	26.0	9.7	5.1	6.2	7.1
May	48.0	47.2	44.7	41.5	31.9	28.2	7.6	5.0	5.2	8.3
June	45.0	41.3	43.9	39.5	29.1	27.1	8.0	4.9	6.8	7.5
July	37.8	46.9	35.7	38.0	24.4	27.2	6.0	4.9	5.3	5.9
August	39.6	[3] 53.4	36.4	[3] 41.6	23.0	[3] 31.9	8.5	[3] 5.0	4.9	[3] 4.7
September	43.6	.....	46.2	.....	33.8	.....	6.4	.....	6.0	.....
October	40.8	.....	39.6	.....	25.3	.....	8.5	.....	5.8	.....
November	31.6	.....	31.5	.....	18.0	.....	9.3	.....	4.2	.....
December	23.7	.....	27.2	.....	14.8	.....	8.6	.....	3.8	.....

[1] Now numbering over 300. The form of average used is the unweighted median of company rates, except for the total separation rate, which is the sum of the median rates for voluntary quits, lay offs, and discharges.

[2] Arithmetic sum of quit, lay-off, and discharge rates.

[3] Preliminary; subject to revision.

TABLE 2.—LENGTH-OF-SERVICE CLASSIFICATION OF EMPLOYEES

Group or locality	Mean percentage of work force in service—		
	Less than year	1 year and under 5 years	5 years and over
Metropolitan Life's sample	21.5	40.8	37.9
Bridgeport, Conn	24.3	43.1	32.8
Massachusetts	15.7	38.8	45.5
Michigan	25.4	47.5	27.1
New Jersey	22.3	42.0	35.7
Wisconsin	26.8	38.7	34.5
Weighted composite	21.5	41.2	37.3

INDUSTRIAL ACCIDENTS AND HYGIENE

Sickness Among Workers in Cosmetic Factories

AN ACCOUNT of a study of occupational diseases among workers in cosmetic factories, made by the New York Bureau of Women in Industry, is given in the August number of the Industrial Bulletin, published by the State department of labor.

In view of the fact that the injurious effects of the use of cosmetics are well recognized in medical literature it was considered probable that workers in this industry might be subject to specific occupational diseases and a survey covering 18 factories manufacturing cosmetics was accordingly made. Three of these factories which employed the largest number of women kept medical records and a special study was made, therefore, of these plants, as it seemed probable that the conditions shown by the records were representative of the hazards of the industry generally.

The three factories, which are designated in the report as A, B, and C, employed 661, 388, and 708 women, respectively. In factory "A," which manufactures a few very high-grade products such as powder, rouge, cold cream, and perfumes, the working conditions are good and there are various welfare features such as recreation rooms and a cafeteria where food may be had at cost while the medical department has a graduate nurse on duty during working hours and a physician daily for two hours. In this plant all applicants for employment are given a physical examination. The women are encouraged to visit the medical department for any illness, however slight, so that their records constitute a fair representation of health conditions among them.

Factory "B" manufactures a miscellaneous line of cosmetics, the workers frequently being shifted according to the daily order requirements, but chiefly from the packing of one product to another. There is a personnel officer in charge in this factory and the activities maintained for the employees include a mutual benefit organization, group insurance, a rest room, and a cafeteria. There is a well-equipped dispensary with a trained nurse in charge and a doctor in attendance twice a week, and oftener when necessary. All applicants for employment receive a physical examination.

In factory "C" a full line of cosmetics was manufactured, the women being employed in practically every operation except the manufacture of the powder. The plant has a medical room with a nurse in attendance but no doctor is employed and in case of accident employees are referred to a near-by physician. There is no physical examination on entrance and no welfare provisions. Lunches are eaten on the worktables, which are cleared off for the lunch period.

Records were kept in each factory of the cases of sickness—but only one showed the departments in which the workers were employed.

As might be expected in factories handling materials producing fine dusts, infections of the upper respiratory tract held first place in the causes of sickness. In factory "C" there was a total of 2,441 cases of illness, 34.4 per cent of which were caused by upper respiratory infections; in factory "B," with a total of 554 cases, 46 per cent were due to this cause; and in factory "A," with 526 cases, 26.2 per cent. This excess of diseases from this cause can not be ascribed altogether to the products manufactured, as the period represented in the data—October to April—is the period during which colds are most prevalent. There is very little doubt, however, the report states, that the constant irritation of the nasal mucosa by powder particles and the vapors from alcohol and essential oils increases the number of such cases. Headache and indigestion were also important causes of sickness and there were an unusually large number of eye affections, including foreign bodies in the eye, conjunctivitis, and styes, many of these cases probably being caused by the irritating substances handled.

The incidence of skin diseases was slightly greater than among a group of candy workers, formerly studied, and greater than most of the figures on occupational dermatitis in general clinic records. In factory "C" there was an unusually large number of skin infections. Most of these were boils on the face, hands, and neck, over 90 per cent being on the hands, showing, it is thought, that the constant handling of powder and perfume leads to an increase in this type of infection.

A comparison of the records of the three factories brings out the value of the entrance examination as where employment is given only on the condition that correctable defects are eliminated, the incidence of avoidable sickness is greatly curtailed, and it also showed the importance of good working conditions, as factory "C," which had the poorest conditions, had an average of 3.45 cases per employee during the six months' period while factory "A," in which the greatest care was shown, had an average of less than one case per employee.

Health of Workers in Dusty Trades [1]

THE effects of different types of dust upon industrial workers are being studied by the United States Public Health Service, which has recently issued the first of a series of bulletins on this subject. The studies cover six industries in each of which the principal dust to which the employees were exposed represents a great group of dusts. Thus the cement industry represents calcium dust; silver polishing, metal dust; the granite industry, silica dust; the anthracite coal industry, carbon dust; the cotton industry, vegetable dust; and street sweeping, municipal dust.

The procedure adopted in making these studies involved the observation of from 500 to 1,000 persons exposed to the dust, this group being augmented wherever possible by a control group of persons in the same industry who sustained little or no exposure to the dust. In general, the period of observation was two years, but in the cement

[1] U. S. Public Health Service. Bul. No. 176: The health of workers in dusty trades. I. Health of workers in a Portland cement plant. Washington, 1928.

industry, which is the subject of the bulletin just issued, the period was extended to three years on account of the small size of the group under observation.

The plan of the investigation which has been followed in all of the studies included an examination to determine the general physical condition of the workers under observation and one or more reexaminations of those showing any physical abnormality or evidence of lung pathology, with special reference to specific diseases of the respiratory system, which might result from exposure to the particular dust hazard. An analysis of the occupations was also made in each industry and records were kept of the nature and severity of the disabling illness of each individual during the period of study. These records showed all absences from work lasting two days or longer, whether resulting from sickness or other causes. The most important point in the job analysis was the determination of the dust exposure, and dust samples were collected, therefore, at sufficiently frequent intervals to show the dustiness of the occupation. The dust counts showed the number of particles over 10 microns [2] and those under 10 microns in diameter and both chemical and petrographic analyses of the dusts were made.

The pathological effects of the different types of dusts vary widely and there is considerable difference of opinion as to why certain dusts are harmful and others are not, but there is general agreement that the size of the particles is important in determining the amount of damage which they cause in the lung. Particles of silica dust of more than 10 microns in diameter do not reach the lung although they may gain access to the upper air passages, but the size of other dusts, such as calcium, carbon, animal, fiber, or vegetable dusts, which may reach and remain in the lung has not been determined. It is not unreasonable to suppose, however, that larger particles of some of the lighter dusts like cement dust may be inhaled.

The types of respiratory diseases caused by dusts are as follows: Minor respiratory, such as diseases of the nose and throat, bronchitis, pneumonia, asthma, pneumonoconiosis, and tuberculosis.

Dust Hazard in the Cement Industry

CALCIUM is the largest single constituent in Portland cement but there is also a considerable amount of silica, of which about 1 per cent is in the free state. In the manufacture of cement the workers are generally subjected to exposure to large amounts of dust and the plant which was chosen for study was one in which the dust hazard appeared to be sufficiently great to be representative of the hazards found generally in the industry.

The industry itself is one of growing importance as shown by the fact that the production of cement had increased 350 per cent in the 20 years between 1905 and 1925. At the present time there are about 148 plants manufacturing cement in the country, which employ more than 42,000 workers and represent an investment of more than $500,000,000. The plant in which conditions were studied employed an average of 254 persons in the three years during which the workers were under observation.

[2] 1 micron = $\frac{1}{25400}$ of an inch.

The cement is manufactured by combining limestone or marl which contains a large amount of lime with clay or shale in which silica, alumina, and iron oxide are the chief constituents. These materials are mixed after being ground very fine, and at various points in the different processes very large amounts of dust are produced. The greatest concentration of dust was found at the Fuller-Lehigh mills in the raw mill, where there was an average of 92,000,000 particles under 10 microns per cubic foot of air, while other dusty locations showed counts which ranged from 22,000,000 to 63,000,000 particles.

Chemical analysis of Portland cement shows that lime forms about 62 per cent of the total; silica, 22 per cent; alumina, 7.5 per cent; iron oxide and magnesia, each 2.5 per cent; sulphur trioxide, 1.5 per cent; and loss on ignition, 2 per cent. The chemical composition is not fixed, however, and the percentages of the different constituents vary at different stages in the manufacture of the cement.

Disability Rates From Respiratory Diseases

A COMPARISON of the frequency rates for absence on account of respiratory diseases between workers in the cement plant and 11 factories in other industries shows that cases of respiratory disease serious enough to disable for two consecutive working-days or longer occurred more than twice as often among the cement workers. As all the workers about the cement plant were subjected to more or less dust it was not possible to select a control group from among them and the records of the men on the factory pay roll of a rubber company were therefore used for comparison. The age distribution of the men on the two pay rolls was practically the same so that differences in the disability rate in the two industries can not be regarded as due to differences in age or physical condition. The group of cement workers was found to have two and eight-tenths times as many absences from colds, bronchitis, influenza, and grippe, while skin diseases caused five times as much disability, and diseases of the eyes and ears, of the pharynx and tonsils, and rheumatism each occurred three times as often. Diseases of the digestive system caused approximately twice as many absences among the cement workers as among the rubber workers.

Among diseases of the eyes and ears, conjunctivitis was the most frequent, but the full effect of the cement dust upon these organs is not shown by the disability rate because certain conditions such as deafness, for which a high rate is shown in the physical examinations, and chronic or mild conjunctivitis do not keep the men from working.

There was found to be a tendency to self-elimination from the industry of those workers who were more susceptible to respiratory diseases and who showed the harmful effects of the dust, as the respiratory incidence among the men who quit during the period of the study was 68 per cent higher than that of those who remained in the industry. Among those who did remain, the rate for respiratory diseases was low during the first few years but after eight years' employment there was a tendency for the rate to increase. This fact is considered to indicate that as the seasoned workers were really a selected group this increase in the respiratory rate occurred in spite of an inherent ability to resist disease. That this tendency was not

influenced by age is shown by the fact that the trend was practically the same for the men under 45 years of age as for those above this age.

Chronic Respiratory Diseases

ABOUT one-third of the employees, as represented by the years of life under observation, had one or more respiratory defect or chronic respiratory disease, and these diseases were found to be most frequent in the departments in which there was the most dust. X rays of the chests of 37 employees who had been employed in the industry more than three years showed that 15 had pneumonoconiosis, 3 of these workers also having tuberculosis, while of the remaining 22, 8 gave evidence of arrested tuberculosis, 4 were negative for either disease, and 10 were considered doubtful.

From the study it appears that the specific problem in the cement industry is the control of the dust. Since the study was started in 1922, it is stated in the report, a number of companies have installed medical service, modern wash and change houses, and efficient dust-collecting systems. It is considered that through efficient medical care the high rate of defective hearing, conjunctivitis, and nasal pharyngitis could be reduced while provision for suitable clothing and proper hygienic control would reduce the frequency of disabling attacks of rheumatism and of disability from certain of the respiratory diseases. It is considered that a standard for the amount of air dustiness could be fixed as has been done in the South African gold mines and in the granite industry at Barre, Vt., as an aid in controlling the prevalence of respiratory disease. A tentative standard which further study might show was either too low or too high is fixed by the investigators at a maximum of 10,000,000 to 20,000,000 particles of dust, under 10 microns in longest dimension, per cubic foot of air.

Occupational Diseases in Massachusetts

THE annual report of the Department of Labor and Industries of Massachusetts for the year ending November 30, 1927, contains a report of the division of industrial safety, in which is a review of the 247 cases of occupational diseases investigated. Of the 247 cases, 25 were women and 222 were men, 5 of the cases being fatal (1 woman and 4 men). The 247 cases investigated, classified by diseases and by industries in which they occurred, are as follows:

Disease	Cases
Industrial dermatitis	77
Lead poisoning	47
Acid, oil, and fume poisoning	20
Chrome poisoning	18
Gas poisoning	16
Benzol poisoning	13
Industrial eczema	12
Tuberculosis	8
Anthrax	8
Cyanide poisoning	4
Dust in lungs	2
Other industrial poisoning	22
Total	247

Industry	Cases
Mechanical	52
Tanneries	51
Metal trades	29
Textile	22
Shoe manufacturing	20
Manufacturing chemicals	15
Woodworking establishments	10
Foundries	8
Rubber mills	7
Paper making	2
Mercantile	1
Miscellaneous	30
Total	247

The report contains a discussion on the several diseases. As industrial dermatitis and lead poisoning have the greater number of cases, the discussion for them is reproduced, as follows:

Industrial dermatitis

Employees contract this disease through coming into contact with irritating agencies. The disease is most prevalent among those handling chemicals, drugs, and foreign species of wood; among tar and petroleum workers; bakers and confectioners; masons, bricklayers, plasterers, paperhangers; furniture polishers; printers and employees in type foundries; and dye and aniline workers. Substances which frequently cause dermititis are copper dust and cocobolo wood dust; mineral, lubricating, and cutting oils and various acids. Investigation of 78 cases of dermatitis was made during the year. Classified by industries, they are as follows:

Industry	Cases	Industry	Cases
Tanning	19	Chemical manufacturing	3
Shoe manufacturing	14	Paper manufacturing	2
Textile manufacturing	9	Foundries	2
Woodworking	6	Mercantile establishment	1
Metal working	6	Miscellaneous	7
Mechanical work	5		
Rubber manufacturing	4	Total	78

Inspection was made of the work places in each of these cases. Careless handling of acid and unnecessary exposure to oils was frequently found to be the cause of the disease. Better control of the materials used was recommended and certain types of containers were suggested for this purpose. The use of rubber gloves was urged in some instances. Occasionally it was necessary to issue orders requiring the installation of running hot water and the replenishing of medical chests.

Lead poisoning

Lead poisoning is usually of industrial origin and is therefore classified as an occupational disease. There is such a great variety of trade processes in which lead in some form is used that many industrial workers are exposed in some degree to this hazard.

There was a total of 47 cases of lead poisoning investigated, none of which was fatal. Industrial lead poisoning occurs most frequently among painters, particularly spray, dip, and automobile painters. Others affected are drillers, reamers, and riveters on structural-iron work; compounders, mixers, and calender operators in the rubber industry; compositors, linotypers, monotypers, and stereotypers in the printing trades; and plumbers, steamfitters, gasfitters, sheet-metal workers, tinsmiths, electric cable splicers, brass molders, lead glaziers, and handlers of insecticides. In all of the cases reported to the department, the place of employment was inspected, in some of which running hot water was not provided; exhaust systems were found to be defective at the point of origin; and respirators, masks, and other means to prevent the inhalation of poisonous fumes or dust were not provided. The diagnosis of lead poisoning was not always clearly established. Fifteen cases occurred in mechanical establishments, 3 in foundries, 2 in rubber mills, 8 in the metal trades, 3 in chemical plants, 1 in the woodworking trade, 1 in a textile concern, and 14 in other places of employment. Physicians cooperated with the department by reporting cases coming under their observation.

Industrial Diseases and Poisoning in British Factories, 1927

THE report of the chief inspector of factories and workshops in Great Britain for the year 1927 contains the report of Dr. John C. Bridge, senior medical inspector of factories, showing the causes and extent of industrial diseases and poisoning among workers in British factories.

An increase in the number of reported cases of industrial diseases occurred in some industries during the year but this was believed to be due to greater employment in these industries, which increased the number exposed to the risk. In general it was considered that health conditions among factory workers, and particularly the younger ones, have improved during the past few years, and, although there are different factors contributing to the improvement, among the more important, it is stated, is the increase in healthful exercise through the use of recreational facilities provided by individual firms or by municipalities.

Among preventive measures which came into effect during the year may be mentioned the lead paint (protection against poisoning) act, 1926, which became effective January 1, 1927. This act made compulsory, for the first time, the reporting of lead poisoning among workers employed in the painting of buildings, and empowered the Secretary of State to make regulations governing working conditions in the industry.

Several special inquiries were made by the medical inspectors during the year, particular attention being given to the effect of dust inhalation in different industries. Other studies included one on lead poisoning among female workers in potteries using low solubility glaze, and investigations of cases of epitheliomatous ulceration of the skin among mule spinners and gas workers, cases being followed up wherever there was reason to believe that the occupation of the person entailed contact with pitch, tar, or mineral oil and that the cause of the disease was, therefore, an occupational one.

The study of lead poisoning among female workers in potteries was undertaken as a result of the occurrence, between the years 1920 and 1926, of 15 cases of lead poisoning among workers using a low solubility glaze. These glazes are so fritted that only a small percentage of the lead content is soluble in gastric juice and the inquiry was made, therefore, to determine the degree of safety insured by the use of these glazes. Fifty-one factories were visited in the course of the study and 835 persons, including controls, were examined. Among 554 workers, male and female, who were in contact with low solubility glaze not one showed symptoms of lead poisoning. Examination of the 39 blood films showed that 11 of these workers had changes in the blood cells indicative of lead absorption but all but 2 of these workers had had previous contact with lead in a soluble form. It was considered, therefore, that if proper precautions are taken both in method of work and in personal hygiene the danger of lead poisoning from a glaze of low solubility is very small.

Table 1 shows the number of cases of disease resulting from the use of some of the more important industrial poisons for certain years from 1900 to 1927:

TABLE 1.—NUMBER OF CASES OF POISONING AND OF INDUSTRIAL DISEASES AMONG FACTORY WORKERS IN GREAT BRITAIN FOR SPECIFIED YEARS, 1900 TO 1927

Disease	1900	1910	1920	1924	1925	1926	1927
Lead poisoning:							
Cases	1,058	505	289	561	414	322	347
Deaths	38	38	44	41	22	46	35
Mercury poisoning:							
Cases	9	10	5	5	5	4	3
Deaths		1				1	2
Arsenic poisoning:							
Cases	22	7	3	6	6	5	3
Deaths	3			1		3	1
Carbon bisulphide poisoning: Cases					3	1	
Aniline poisoning:							
Cases					31	33	38
Deaths					1	1	1
Chronic benzene poisoning: Cases						1	
Toxic jaundice:							
Cases			6	3	2	2	3
Deaths			3		1		
Epitheliomatous ulceration:							
Cases			45	123	160	187	174
Deaths			1	24	55	49	49
Chrome ulceration: Cases			126	45	54	55	65
Anthrax:							
Cases	37	51	48	43	45	38	31
Deaths	7	9	11	4	9	3	2

Lead poisoning.—There were 347 cases of lead poisoning reported for 1927 as compared with 332 the previous year, but although this was a slight increase in the number of cases there were 11 fewer deaths in 1927. The largest number both of cases and deaths occurred in the painting of buildings, while electric storage battery works, shipbreaking, smelting works, white and red lead manufacturing, coach and car painting, vitreous enameling, and the pottery industry were among the more important industries from the standpoint of the lead hazard. Among the cases occurring in the smelting of metals, eight, one of which was particularly severe, were from an unusual source, namely, at a blast furnace of a steel and iron works where the ore contained 1 per cent of lead. The poisoning was due to the fume when tapping was in progress. Spray painting accounted for only four cases of poisoning—one in vitreous enameling and three in spraying colors on leather.

Arsenic.—Two cases of arsenical dermatitis occurred in a plant manufacturing white arsenic and there was one case in which arsenic was a contributory cause of death in a worker who had been employed for more than 30 years in the manufacture of sheep dip. One firm manufacturing sheep dip which had installed baths and made their use compulsory had had no cases of ulceration of the skin of either a malignant or benign character during the year.

Mercury.—There were three cases of mercurial poisoning in 1927, two of which were fatal. The immediate cause of death in one case was edema of the lungs and bronchitis and of the other heart disease and nephritis, but in both cases the primary cause was considered

to be the mercurial poisoning. A new process of printing involving the use of mercury was introduced during the year but no cases of poisoning had arisen, although it was considered that it had not been used for a long enough time or on a sufficiently extensive scale to indicate the extent of the hazard.

Aniline.—Of the 38 cases of aniline poisoning in 1927, all were of the usual type with the exception of one in which the patient developed toxic amblyopia, a somewhat rare effect of the poison. In one of the fatal cases the cause of death was cancer of the bladder, the man having previously been recognized to be suffering from aniline poisoning.

Anthrax.—Two fatalities and a total of 31 cases of anthrax were reported in 1927. Of these, 18 with 1 death were due to infection from wool; 3 (1 fatal) were contracted from horsehair; 9 from hides and skins; and 1 developed in a worker in a brush factory. In the fatal cases treatment was delayed for two days in one case and three days in the other. In 24 of the nonfatal cases the serum treatment was used, either alone or combined with excision.

Chrome and epitheliomatous ulceration.—The cases of chrome ulceration occurred principally in bichromate manufacture, dyeing and finishing, chrome tanning, and chromium plating. The recently developed electrical process for plating articles with chrome was responsible for a series of cases in some of which there was ulceration of the nasal septum leading to complete perforation.

One of the most serious diseases—epitheliomatous ulceration—was the cause of 174 cases in 1927, of which 49 were fatal, the number of fatalities being more than half of the total fatalities from all forms of notifiable industrial disease. These cases were caused by pitch and tar in the manufacture of patent fuel, in tar distilleries, gas works, and coke oven plants; by paraffin in shale oil works; and by mineral oil in mule spinning, while a few cases occurred in a miscellaneous group of industries. Thirty-one of the forty-nine fatal cases developed among mule spinners.

Poisoning from gases and fumes.—The number of cases of poisoning from carbon monoxide was 88 with 4 deaths, a decrease of 13 cases from those reported the preceding year. There were 13 cases caused by blast-furnace gas, 19 cases with 1 death were due to producer gas, 38 with 2 deaths to coal gas, and 18 cases with 1 death were due to various causes such as fumes from rivet fires in confined spaces either in construction or repairing of ships, exhaust gases of motors, and cleaning boiler flues.

Table 2 shows the number of cases of poisoning from gases and fumes for the years 1921 to 1927:

TABLE 2.—NUMBER OF CASES OF INDUSTRIAL POISONING FROM GASES AND FUMES, 1921 TO 1927, BY YEARS

Gas or fume	1921	1922	1923	1924	1925	1926	1927
Carbon monoxide:							
Cases	77	111	134	107	118	101	88
Deaths	14	14	7	10	10	6	4
Carbon dioxide:							
Cases	5	1	10	5	10	4	3
Deaths	4		2	2	2		
Sulphureted hydrogen:							
Cases	3	12	8	11	4	3	9
Deaths		3		4			
Sulphur dioxide:							
Cases	5	7	10	10	3	2	5
Deaths					1		1
Chlorine: Cases	3	11	16	20	12	13	14
Nitrous fumes:							
Cases		8	7	10	10	5	7
Deaths				1	2	1	
Ammonia:							
Cases	9	8	5	1	5	5	5
Deaths	1	1	1			1	
Benzol, benzine, naphtha, petrol:							
Cases	10	25	55	26	3	4	7
Deaths		1	3		1	1	2
Arseniuretted hydrogen							
Cases	1	1	4	3	2	1	3
Deaths	1		2		1		
Miscellaneous:							
Cases	3	10	35	28	35	17	23
Deaths		1	2	4	3	1	2

WORKMEN'S COMPENSATION

Growth of New York State Insurance Fund

THE annual report of the manager of the New York State Insurance Fund for the year ending December 31, 1927, has been published as an extract from the annual report of the industrial commissioner of New York. The report, in its discussion of the State Insurance Fund, told of the growth of the fund during the year 1927, as follows:

Growth of the fund

During the year 1927 the State fund has greatly increased its value to the industries of the State. The amount of premiums written during the year ended December 31, 1927, amounted to $7,088,628, as compared with $6,949,772 during 1926, or a net increase of $138,856.

The number of policyholders on December 31, 1927, was 21,047, showing a net increase of 3,585 during the year. This indicates a healthy rate of increase in 1927, particularly in view of the downward trend in business activity. The chart comparing State fund earned premiums with New York State factory pay rolls presents a striking picture in this respect. It is readily seen that from 1915 until 1922 earned premium followed the movement of factory pay rolls, which is taken as an indication of business conditions. However, since 1922 State fund activity has been ever increasing, while pay rolls show a decrease in business activity.

It is interesting and not difficult to find the explanation of this continuous expansion of our business since 1922. For one thing the general revision of the workmen's compensation law in that year was very helpful to the fund in winning the confidence of the employers in the State. One amendment provided for the appointment by the governor of an advisory committee of policyholders, whose counsel and supervision have unquestionably reacted to the benefit of all our policyholders. Another amendment at that time provided for a quarterly and therefore flexible budget for administrative expenses, to be prepared with a careful review by the advisory committee.

It is fitting here to express appreciation of the services of the members of this committee on behalf of the State fund organization. But the explanation of the success of recent years does not end here. We must look also within the organization itself. It was only in 1923 that business acquisition was fully recognized as a major function of the fund and in that year the business acquisition department was established. Other internal changes from time to time made possible through the cooperation of a loyal staff, as well as the employees, have continued to improve the efficiency of the organization, so that we have been able to render services to our assureds equal to the best, and at the same time keep the cost of State fund insurance low enough to be decidedly attractive to a constantly increasing number of employers.

Condition of Ohio State Insurance Fund

THE actuary's statement of the condition of the Ohio State Insurance Fund, as of December 31, 1927, to the Industrial Commission of Ohio, contains a statement of assets and liabilities, an explanation of why the claim reserve of $46,515,351.42 is necessary, receipts and disbursements for the year 1927, the increase

in the pay roll covered and the claims filed during 1927, changes in rates, and an explanation of the revised merit-rating system, in part, as follows:

Assets:	
Invested in bonds	$47,103,610.82
Bank deposits (inactive)	2,114,295.49
Bank deposits (active)	1,983,630.51
Premiums in course of collection	2,494,184.68
Accrued interest due fund	781,392.86
Bond premium after amortization	758,353.36
Total	55,235,467.72
Liabilities:	
Reserve held to cover awards on which payment is required to be made over a period of years, or during the life of the injured worker	46,515,351.42
Reserve to cover warrants issued but not cashed	636,949.92
Reserve for portion of advance premium payments not already earned	2,097,920.62
Premium due over 90 days	455,829.75
Reserve required by statute to meet catastrophe losses	3,209,109.93
Surplus	2,320,306.08
Total	55,235,467.72

Claim reserve

Why the necessity of a claim reserve of $46,515,351.42?

Under the workmen's compensation law benefits are paid over a long period of time, in fact the major portion of all benefits on account of injuries of a given year are to be paid out in later years. These losses must be paid out of premiums collected in the period in which they occur. They can not be taken out of future premiums.

An analysis of the claim reserve of $46,515,351.42 by type of claims will be of interest.

Number of claims	Type	Reserve
4,600	Fatal claims where compensation is paid to dependents of deceased employees over a period of 6 to 8 years	$7,261,563.14
569	Permanent total claims where compensation will be paid to claimant for the remainder of his life	4,269,000.00
905	Claims where the injury has already resulted in total disability of over 2 years and eventually, in all probability, will be declared a life case or become a fatal case	10,286,400.00
2,813	Impairment claims where claimants are partially disabled and receive compensation based on their reduced earning capacity	8,090,900.00
2,880	Indeterminate claims where injury has not developed to a point where it can be determined what the ultimate result will be	10,996,800.00
25,000	Minor temporary total, dismemberment claims such as loss of arm, fingers, etc., and concealed claims	5,130,688.28
150	Court claims where the commission has denied compensation and appeal has been made to the courts	480,000.00

All of the above claims are paid on a biweekly basis over the period of time they have to run.

Receipts and disbursements for year 1927

The receipts for the year 1927, including premium and interest on reserve funds, total	$15,467,320.35
Total disbursements for the year 1927	13,358,270.89
Balance	2,109,049.46

The above statement shows the fund in a very satisfactory condition.

Reduction of rates

A summary of this year's rate revision shows 25 per cent of the classifications receiving a reduction, 22 per cent an increase, and 52 per cent no change from that of last year.

Revised merit-rating system

The merit-rating system has been revised to give more effect to the individual experience of an employer. Employers with an accident-cost ratio below the average of their industry will receive greater reward while employers with a high accident-cost ratio will receive a heavier increase in their penalty. The effect of an employer's experience upon his individual rate will increase in proportion to his exposure. Employers with an exposure of less than $100 premium over the five years, 1923 to 1927, inclusive, will not be subject to merit rating but receive the basic manual rate due to their exposure being too limited to develop a dependable average. Employers with a total premium of between $100 and $5,000 will be merit rated on the cost of all claims up to $700 per claim. Employers with premium in excess of $5,000 will be merit rated on the cost of all claims, giving more weight to that portion of the experience that covers the cost of claims up to $700 per claim, and a lesser weight to that portion of their experience that covers the cost in excess of $700 per claim. By dividing the losses of an employer into two divisions, i. e., that portion that represents the cost up to $700 per case and that portion that represents the cost above $700 per case, a closer criterion of the hazard of an employer's operations is obtained, thus permitting a greater effect of his experience upon his individual rate. By this system an employer with $10,000 of losses which covers 10 separate claims will receive a greater penalty than an employer with the same total of losses but which represents only one accident.

An employer has more control over the prevention of an accident than he has over the extent of the cost of an accident. An accident may cause only a slight injury or the same accident may cause a death. The extent of injury caused by an accident depends on what part of the body receives the force of the accident, where the employee happens to be, how well employee's body responds to medical treatment, and many other factors. Therefore, greater weight is given to the number rather than to the cost of accidents. Employers must, therefore, first endeavor to prevent the accident and next keep down the cost of accidents that do occur.

Exclusion of Children From Benefits of Workmen's Compensation in Pennsylvania

THE Department of Labor and Industry of Pennsylvania, in its monthly publication, Labor and Industry, for July, 1928, presents an article by Beatrice McConnell, assistant director of the Bureau of Women and Children, showing the results of an investigation in Pennsylvania of industrial accidents to minors under 18 years of age where some type of illegal employment was indicated on the accident report. The first part of the article reads as follows:

There were 4,186 industrial accidents to minors under 18 years of age reported to the Department of Labor and Industry in 1927. These reports are made in accordance with the provisions of the workmen's compensation act, which requires the reporting of all industrial accidents where the injury has caused an absence from work of two days or more. Special investigations of 515, or 12 per cent, of these accidents were made by the bureau of inspection because some type of illegal employment was indicated on the accident report. In 258, or 50 per cent, of the cases investigated the minors were found to be employed in violation of the child labor law. These 258 accidents to minors illegally employed constitute 6 per cent of all accidents reported for minors under 18 years of age in 1927.

The compensation status of illegally employed children

Since children injured in industrial accidents may be excluded from the benefits of workmen's compensation if they are employed in violation of the child labor law,[1] a special effort was made to learn the disposition of the 258 cases where employment had been found to be illegal.

Ninety-seven of the 258 cases were noncompensable—cases where the loss of time due to the accident was less than 10 days. In the remaining 161 cases the injury resulted in more than a 10-day loss of time from the job. These accidents, had employment been legal, automatically would have come under the workmen's compensation act.

The compensation status of the 161 cases where the loss of time exceeded 10 days is as follows:

Status	Number	Per cent
Compensation paid	146	90.6
Compensation refused	14	8.7
Cases pending	1	.7
Total	161	100.0

In 90 per cent of the cases where the accidents occurred to minors employed in violation of the child labor law the insurance companies assumed the responsibility for compensation payments and medical expenses even though by law they were not required to do so. It seemed that the companies preferred to give this service to their assured rather than to raise the question of illegal employment and shift the responsibility onto the employers themselves. In 14 cases, however, compensation was refused. Nine of these cases were refused by six private companies and four by the State workmen's insurance fund. In one case compensation was offered by the insurance company and rejected by the injured minor. There seemed to be no connection between the type of illegal employment and the decision of the insurance companies to pay or to refuse to pay compensation benefits. Practically all types of violations of the child labor law figured in the cases where compensation was paid, as well as where it was refused. Nor did the extent of disability appear to be the deciding factor where compensation was refused. Compensation was paid in 29 permanent-disability cases where the injury was quite as serious as in the 4 where compensation was refused. In fact every insurance company that refused to pay compensation in these cases had in this same year paid compensation in other possibly less evident cases of illegal employment.

The refused compensation cases

The 14 children refused compensation on the basis of illegal employment were boys, and all but 4 were under 16 years of age.

Age	Number
14 years	5
15 years	5
16 years	3
17 years	1
Total	14

The injuries received by these minors resulted in temporary disability in 10 cases and in permanent disability in 4 cases. One 14-year-old boy had his right hand amputated at the wrist and another lost his right arm at the elbow. The other 2 permanent disabilities, while less serious, involved the loss of 2 fingers in 1 case and 1 finger in the other.

The nature of settlement

The exclusion of illegally employed children from the benefits of the workmen's compensation act does not necessarily mean that the injured minors receive no recompense for lost time and medical expenses, neither does it mean that these minors collect damages greatly in excess of the amount which would have been

[1] Supreme court decision, 267 Pennsylvania 504.

received through compensation. Although 7 of the 14 children who were refused compensation received payments approximately or slightly exceeding the amount that would have been due through compensation, 5 received only their medical expenses and 2 nothing at all.

After discussing the 14 cases in which compensation was refused, the article contained the following conclusions based upon the study made of the facts brought out in the investigation:

Illegally employed minors have not in practice embraced the opportunity offered by the supreme court decision to secure through civil suit more damages than would be available if their injuries had occurred in the course of legal employment. The Bureau of Women and Children made this finding in a study of the accidents to illegally employed children occurring in the last 6 months of 1926.[2] The same conclusion is reached in this study of accidents for the year 1927.

In 1927, of the 161 minors under 18 years of age injured while illegally employed, 146 received only the amount of compensation which would have been available had their employment been legal. Fourteen were refused compensation; in 1 case by the action of the family, but in 13 cases on the decision of the insurance companies. Of these 14 refused cases, only 3 received more money than would have been their due under workmen's compensation. All three cases were temporary disabilities and the settlements came through informal agreements between the employer and the family and not following a civil suit. In four cases the amount obtained by the minors approximated what would have been received under compensation, in only one instance following a civil suit on the part of the family. Five cases of temporary disability meant the receiving of medical expenses but the full loss of wages during the time lost because of disability. Two minors incurring permanent disabilities, in one case amounting to the loss of two fingers and in the other to the loss of the right hand, received no form of redress.

Texas Employers' Insurance Association Must Accept All Risks

THE Court of Civil Appeals of Texas, on June 27, 1928, affirmed a judgment granting a writ of mandamus against the Texas Employers' Insurance Association compelling it to issue a policy of insurance in accordance with the terms and provisions of the workmen's compensation act of Texas.

The Texas Employers' Insurance Association was created by the legislature for the specific purpose of carrying out the provisions of the workmen's compensation act of Texas and as an "agency for the proper administration of this law." The association proceeded upon the theory that it was charged with the duty of accepting the application of any qualified "employer" desiring to become a "subscriber" to it as those terms are employed in the act. The association, however, changed its view following opinions of the Commission of Appeals of Texas holding that the association was only a private insurance company engaged in the insurance business on the mutual plan in the same way and with the same effect as any other private insurance company. (City of Tyler *v.* Tex. Emp. Ins. Ass'n., 288 S. W. 409, on rehearing, 294 S. W. 195.) Following these opinions, the association thought that it was only a private corporation engaged in the insurance business and claimed the right enjoyed by every private corporation to exercise judgment in the acceptance of insurance risks. (See also, Tex. Emp. Ins. Ass'n., *v.* City of Dallas, 5 S. W. [2d] 614.)

[2] Pennsylvania Department of Labor and Industry. Labor and Industry, Harrisburg, July, 1926.

The United States Torpedo Co. brought proceedings for a writ of mandamus to compel the association to issue a policy of insurance, in accordance with the terms and provisions of the workmen's compensation act, and covering the torpedo company's employees engaged in the business of shooting oil wells by the use of dynamite, nitroglycerine, and other high explosives which the association refuses to cover because "it deemed the business a very hazardous one." The writ of mandamus was granted and the case was taken to the Court of Civil Appeals of Texas. That court of civil appeals, on June 27, 1928, affirmed the lower court. The court said that the sole question was whether the association had the lawful right to select the risks it would cover with insurance. The court concluded that the association had no legal right to reject the torpedo company's application for insurance, nor to reject the application of any "employer" who meets the requirements and desires to become a "subscriber" as those terms are used in the workmen's compensation act. The court said that a question of conflict as to whether the association was a private corporation was not material to the issue, as it was agreed that the legislature created the association for the specific purpose of carrying out the provisions of the workmen's compensation act and that in that respect the association became an "agency for the proper administration of this law." The court said that the association "would never have been created had such an agency not been needed to effectively administer this law. That being true, the agent is no greater than the law creating it, and must find its powers and duties in this law. It is conceded that the act gave no discretionary powers or functions to appellant with reference to the risks it was to cover with insurance, but that it was compelled to insure any 'employer' who desired to become a 'subscriber' to it under the terms of the act. It is also agreed that appellee is an 'employer' under the terms of the act and entitled to the insurance applied for, but for the contention herein made by appellant [association], that appellee [company] is deprived of its common-law defenses, in the event of injury or death to one of its employees, and that it is left without any protection unless appellant [association] can be compelled to issue the policy of insurance prayed for." (Texas Employers' Ins. Assn. *v.* United States Torpedo Co., Court of Civil Appeals of Texas, June 27, 1928, 8 S. W. [2d] 266.)

COOPERATION

Formation of Eastern Cooperative Wholesale Society

THE Eastern Cooperator, publication of the Eastern States Cooperative League, in its July, 1928, issue announces the formation of a wholesale society to be known as the Eastern Cooperative Wholesale (Inc.).

The new organization is the outgrowth of the collective buying which has been carried on by member societies of the League for several years. The bakery societies started this by pooling their orders for flour. Other societies became interested, orders of other articles were also pooled, and little by little the volume of orders has increased to the point where it has seemed desirable to incorporate a separate organization to handle this business.

The new wholesale is capitalized at $100,000 and will serve the cooperative societies of New York, New Jersey, and the New England States. Its headquarters will be in New York City.

For the present only a jobbing business will be done. No warehouse will be acquired until the business warrants it. The business will be in the charge of a board of five directors.

Condition of Labor Banks, June 30, 1928

THE following data, showing the resources of the 28 labor banks on June 30, 1927, were furnished by the industrial relations section of Princeton University:

CONDITION OF LABOR BANKS AS OF JUNE 30, 1928

Name of bank and location	Capital	Surplus and undivided profits	Deposits	Total resources
Federation Bank & Trust Co., New York	$750,000	[1] $750,000 [2] 297,278	$19,036,393	$21,168,585
Engineers National Bank of Cleveland	1,000,000	359,956	16,780,115	20,154,680
Amalgamated Bank of New York	650,000	[1] 350,000 [2] 85,470	9,837,679	11,209,688
Telegraphers' National Bank of St. Louis	500,000	224,303	6,755,030	7,718,383
Labor Cooperative National Bank of Paterson, N. J	300,000	[1] 150,000 [2] 35,782	5,031,616	5,675,320
Brotherhood of Railway Clerks National Bank, Cincinnati	200,000	[1] 50,000 [2] 43,794	4,507,582	5,274,641
Mt. Vernon Savings Bank, Washington	400,000	151,822	3,730,431	4,374,575
Labor National Bank of Newark	250,000	148,886	3,626,281	4,064,412
Engineers National Bank of Boston	500,000	[1] 50,000 [2] 22,095	2,833,020	3,732,132
Amalgamated Trust & Savings Bank, Chicago	200,000	[1] 100,000 [2] 42,175	3,129,408	3,493,885

[1] Surplus. [2] Undivided profits.

CONDITION OF LABOR BANKS AS OF JUNE 30, 1928—Continued

Name of bank and location	Capital	Surplus and undivided profits	Deposits	Total resources
Brotherhoods Cooperative National Bank of Spokane	200,000	89,097	2,687,913	3,195,679
Brotherhood Cooperative National Bank, Tacoma, Wash.	200,000	45,164	2,677,757	3,122,879
Brotherhood Cooperative National Bank, Portland	200,000	70,722	2,287,024	2,763,149
Transportation Brotherhoods National Bank, Minneapolis	200,000	61,540	2,396,009	2,743,204
Labor National Bank of Jersey City	200,000	104,320	2,105,277	2,709,095
Brotherhood National Bank of San Francisco	500,000	55,793	1,669,123	2,433,328
People's Cooperative State Bank, Hammond, Ind	100,000	[1] 30,000 [2] 15,412	1,705,643	1,933,634
American Bank, Toledo	200,000	[1] 50,000 [2] 4,241	1,203,683	1,588,567
Brotherhood Bank & Trust Co., Seattle	250,000	40,000	911,954	1,201,954
Farmers' & Workingmen's Savings Bank, Jackson, Mich.	100,000	16,300	971,087	1,095,938
Nottingham Savings & Banking Co., Cleveland	75,000	[1] 15,000 [2] 6,689	798,717	895,698
Hawkins County Bank,[3] Rogersville, Tenn	50,000	53,804	722,261	826,065
Labor National Bank of Great Falls, Mont	100,000	[1] 10,500 [2] 8,786	699,892	822,178
United Labor Bank & Trust Co., Indianapolis	112,500	[1] 22,500 [2] 11,142	658,222	810,144
Gary Labor Bank, Gary, Ind	50,000	[1] 10,000 [2] 2,643	627,130	759,892
Labor Bank & Trust Co., Houston	100,000	[1] 3,000 [2] 951	423,878	528,888
Labor National Bank of Three Forks, Mont	25,000	[1] 5,000 [2] 5,704	192,818	228,522
Brotherhood State Bank,[4] Spokane	25,000	[1] 5,000 [2] 1,745	159,891	192,563
Total (28 banks)	7,437,500	3,606,614	98,165,834	114,717,673

[1] Surplus.
[2] Undivided profits.
[3] Statement as of Apr. 24, 1928.
[4] Statement as of Feb. 28, 1928.

New Trend in Cooperative Marketing Contracts

DUE to the widespread use of the cooperative contract by cooperative marketing associations in the United States, the following, extracted from a report submitted to the National Association of Marketing Officials by Mr. Robin Hood, chairman of the committee on cooperative organizations and editor of The Cooperative Marketing Journal, is of interest:

"The past year witnessed the beginning of a new deal in the field of contractual relations between cooperatives and members. There is now a distinct trend toward liberalizing marketing contracts. In the South we have seen the old Sapiro contracts dehorned and fitted to the financial needs of the members. On the prairies we have seen some of the grain cooperatives abandon compulsory seasonal settlements for optional immediate settlements. In other places we have seen the granting of withdrawal and other rights to the members. And we have seen tobacco associations abandon the 'crop control' idea in favor of efficient selling on a small scale.

"The most comprehensive changes in the direction of liberalized contracts have been made by the cotton cooperatives. They have abandoned law courts and threats of legal compulsion as a means of getting deliveries from members, and have adopted contracts that set forth services fitted to the credit needs and settlement preferences of their members. * * *

"During the past year numerous associations have incorporated a clause in their contracts by which members are given the right to withdraw and cancel their marketing contracts by giving notice in

advance. Most of the cotton associations, several wheat pools, one tobacco cooperative and a number of scattered organizations have been added to the list of those from whom members may withdraw, while a number of the older associations have operated with a withdrawal clause prior to the present year.

"The withdrawal clause has been a mooted question in cooperative circles. Its disadvantage lies in the fact that a year of adversity may result in such a number of withdrawals as to endanger an association's existence. There are plenty of legal and financial reasons why an organization should deny its members the right of withdrawal if it wants to, but when considered from the standpoint of members' morale, most cooperative officials are inclined to the view that there is only one satisfactory way to handle the dissatisfied member, and that is to let him out as quick as he will get out and even to encourage him to get out.

"The thing I like best about the optional settlement and withdrawal provisions is that they eliminate every semblance of compulsion and make cooperation less a legal affair and more a mutual service affair. In other words, they emphasize the spirit of cooperation and make its success dependent more directly upon rendering a service year in and year out. The withdrawal right checks back responsibility squarely and promptly to the executives. Their service must be satisfactory or a heavy withdrawal will undermine their standing and compel their retirement. I believe the liberal features of the new contracts place greater demands upon cooperative executives for business efficiency and releases demands upon them for political strategy." [1]

Agricultural Cooperation in Typical Areas in Minnesota [2]

AN INTENSIVE study in typical areas in two counties of Minnesota, made in 1927 by the United States Department of Agriculture and the College of Agriculture of the University of Minnesota, reveals that 66 per cent of the farmers interviewed were members of cooperative associations. Approximately 90 per cent of the farms in four townships were visited Of these 404 farmers, 266 were selling their farm products or buying their farm supplies through cooperative associations, 191 were members of cooperative creameries, 143 of livestock shipping associations, 37 of elevator companies, and 50 of cooperative oil associations.

One-half of the farmers belonged to 1 association each, 41 per cent to 2 associations, 7.5 per cent to 3 associations, and 1.1 per cent to 4 associations.

[1] Cooperative Marketing Journal, Memphis, Tenn., March, 1928, p. 59.
[2] Agricultural Cooperation, Washington, D. C., Aug. 18, 1928, p. 341.

Cooperative Development in Belgium

AT THE end of 1927 there were in Belgium 2,228 cooperative associations of all kinds, according to the August 1, 1928, issue of La Coopération Belge (Brussels). This is an increase of 103 societies as compared with 1926, when the number was 2,125. The figures for 1925 and 1924 were 2,056 and 1,940, respectively. It is pointed out, however, that these figures can not be regarded as an entirely accurate picture of cooperative development in Belgium, since some societies are formed or dissolved without notifying the authorities of the fact.

The statement below shows, for the 1,927 societies reporting, the number of each type at the end of 1927:

	Number
Consumers' societies	382
Pharmacies	14
Productive societies:	
"Capitalist" [1]	474
Workers'	50
Nations [2]	38
Savings and credit societies	135
Housing societies	110
Insurance	55
Marketing associations	39
Miscellaneous	640

[1] Societies, not generally regarded as truly cooperative, of private merchants.
[2] Cooperative labor societies, mainly those of dock laborers.

RECREATION

National Recreation Work in Italy

THE annual report of the Opera Nazionale Dopolavoro for 1927 [1] gives a comprehensive picture of the work of the organization. The word "dopolavoro" is composed of two Italian words meaning "after work." The object of the O. N. D.,as the organization is popularly known, is to promote recreational activities best adapted for the profitable utilization of the worker's leisure time and to unite these activities under national control and direction.

The movement started in 1919 with the return of the soldiers from the war. In that year a dopolavoro office was founded at Rome, operated independently but with assistance from the Government. The office informed employers as to the advantages resulting from the institution of welfare work among their employees, aided and assisted them in carrying out plans, developed various forms of entertainment, organized educational and athletic clubs, conducted excursions, and carried on an elaborate propaganda throughout the kingdom.

The attention of the public was soon attracted to the movement. It received the formal approval of the National Fascist Party at the close of the year 1923 and passed under the control of the Fascist organization. On the 1st of May, 1925, it was created a public institution by legal decree and established by law March 18, 1926, with amendment of November 11, 1926, and is now administered as one of the functions of the Government, forming a bureau in the Ministry of National Economy. The organization has absorbed the various forms of welfare work conducted by individual employers for the benefit of their employees, also local organizations of every kind that had been formed to uplift and improve the character of the laboring man, including recreational, educational, musical, and various outdoor organizations, many of which were political in character.

The advantages of the movement were extended to all employees of the Government and to all workers generally who were defined as those working for a wage or a salary. Commercial, industrial, and professional men, farmers, those who live on an income, and those with political opinions opposed to the present Government in Italy are excluded. Only those who openly accept Fascist views and are members of the National Fascist Party are entitled to the benefits of the organization or to hold any office in it.

[1] Opera Nazionale Dopolavoro. Bollettino Mensile, Rome, January-February, 1928: L'attività dell'O. N. D. nel corso dell'anno 1927.

Administration

THE work of the organization is directed from the central office at Rome by an administrative council consisting of the secretary general of the National Fascist Party, acting as a commissioner extraordinary of the O. N. D., and eight persons representing the eight departments of the Government. This council formulates, coordinates, and supervises the activities with the aid of a general directorate, which decides upon plans, a central technical commission consisting of representatives of the various departments of entertainment in the various centers, and a central united commission which oversees the program for special groups of employees.

In each Province of the Kingdom a commissariat or board of directors directs the activities of the dopolavoro in that Province with the assistance of a provincial commission and an administrative body. Each Province is divided into zones, each zone under the jurisdiction of an official directed by the provincial board.

Activities

THE activities of the different commissions are many and varied. The music commission organizes choruses, orchestras, and bands, and encourages the founding of music schools and the holding of musical conventions where popular songs are sung. Composers are encouraged. The various provincial groups are pitted one against the other. An attempt is made to bring out men and women with good voices, organize them, and keep alive the traditional Italian love of music. At the national choral convention in July, 1927, 52 of the best societies in Italy participated. An experimental lyric theater was opened in Rome during the year where two Italian operas were given—Mascagni's "Friend Fritz" and Rossini's "Barber of Seville"—both recognized as requiring considerable talent for a proper rendition.

The dramatic commission aims to cultivate a taste for the drama. It encourages amateur theatricals and helps in the formation of societies, assisting them in procuring halls, in the preparation of programs, and in securing books of plays at reduced rates. It urges the study and presentation of the best plays, encourages the writing of new plays, the best of which it submits to regular theatrical critics for examination, and holds periodical competitions between amateur players and companies.

The moving-picture commission has a special staff to care for and distribute the films used. The films are generally educational in character. During the year 1927, 373 different ones were shown. Arrangements were made with the owners of various moving-picture theaters to reduce their prices of admission by half, the Government at the same time agreeing to rebate one-half the fiscal tax on the theater.

The radio broadcasting commission gives a 10-minute program daily through the stations in Rome, Milan, and Naples. The programs consist of such subjects as current events, hygiene, history, science, art, literature, farming, domestic economy, and sports, with

selections from the classic writers and the great artists. The commission also obtains reductions in the prices of receiving apparatus.

The popular education commission works to secure for societies proper assembly rooms and books and magazines at reduced cost. It also issues a periodical in which social, technical, hygienic, and scientific subjects are treated in a popular manner. It has instituted courses in stenography, drawing, foreign languages, and Italian literature in several cities, and supports a library.

The commission on industrial education aims, by evening and Sunday classes, to aid workmen to increase their technical knowledge of the particular trade in which they are engaged. Classes varying according to the needs of the different communities are formed through workingmen's societies. The teaching is done by instructors who travel from place to place, half of the expense being paid by the Government through the Ministry of National Economy. Affiliated with this commission are public and charitable bodies, which provide free instruction to persons showing marked ability along particular lines. A school has been opened in Rome for workers in wood, and also schools for painting, ornamenting, and decorating furniture.

The commission for the education of women prepares courses in subjects considered particularly adapted to women—domestic economy, hygiene, first aid, and nursing—and provides schools teaching embroidery and needlework. The work is usually carried on in industrial centers near factories or offices employing large numbers of women. A three-day congress was held in Rome in November, 1927, under the patronage of the Queen and the honorary presidency of Mussolini.

The commission for after-work industries encourages several light occupations, such as gardening, horticulture, floriculture, poultry breeding, rabbit breeding, and apiculture—occupations in the nature of recreation which cost little to start and are easily carried on by the members of the family at home. The commission makes suggestions, offers prizes, and encourages competition between the various groups. A convention was held in August, 1927, in the interest of the movement.

The commission for excursions organizes excursions for holidays, week ends, and vacation periods to museums, factories, the mountains, seashore, and various other places of interest. Closely allied to this is the commission of tours, which obtains reduced rates on the railroads and motor cars for persons going away on pleasure or for their health.

The commission on sports aims to improve the general health of the community. It encourages athletics and games of all kinds—cycling, fencing, shot putting, swimming, boating, mountain climbing—and maintains gymnasiums in various places. It arranges matches between the various clubs and even with clubs in other countries, but insists that the sports be engaged in by amateurs only. The number of persons appearing in the various games during 1927 was 7,829.

There are also commissions for hospitals, folklore, domestic economy, health, popular dwellings, and home furniture.

Few centers carry on all of the activities described. As the interest in the work of any commission wanes, another commission is substituted for it, the intention being to carry on only such work as the people of a locality are interested in. It is not the province of a commission to support any of the work, but only to encourage, assist, and direct.

The central united commission groups in separate units the members of related trades and occupations, such as the railway group, organized by act of October 25, 1925, and the postal group organized by act of July, 1926. The bank clerks, Government clerks, seamen, longshoremen, fishermen, miners, and other groups are in process of organization.

The central commission for harbor workers and fishermen has arranged activities in various ports. At Trieste, restaurants have been established where members may obtain lunch and dinner at a low cost, with access to reading rooms and bathrooms. Recreation rooms have been established for fishermen in several cities, and schools showing them how to make nets and to perform the work of their occupation have been started.

In order to reduce expenses, the dopolavoro has encouraged employers to lay out athletic fields, build gymnasiums, and donate the use of rooms in which to hold meetings and for reading purposes. The organization stimulates the better utilization of national raw materials. It urges young men to join the navy and to take up aviation, having prepared a course for those seeking admission to the schools of aviation. Persons specially fitted for these lines of service are sought out and recommended to the State.

The propaganda office of the movement sends accounts of the activities to the daily papers and to periodicals, and publishes a weekly paper, "Il Dopolavoro," which is sent free to the directors of the various centers and to mayors of cities and other administrative authorities interested in the movement. In addition, the organization publishes a monthly bulletin, besides reports and accounts of various congresses held in connection with the different activities. Its meetings and various activities bring it constantly before the public. On May 30, 1926, mass meetings were held in 6,000 centers of Italy to diffuse among the masses information as to the purposes of the institution.

Each member of the organization holds a ticket bearing his name, address, occupation, and photograph which he must present whenever he wishes to secure reduced rates for transportation or entertainment. It also contains the name of the person granting it, who is the head of some business or manufacturing concern adhering to the dopolavoro. Such persons present to the provincial commission a list of their employees who desire tickets, assuming entire responsibility for their morality and politics. After investigating the applicant, the commission forwards the application with its own recommendation to the general directorate. If the application is approved, the directorate sends the applicant a ticket on payment of the requisite amount of money. This ticket is good for a calendar year, monthly dues being paid for its use.

The ticket holders in a locality form themselves into clubs or societies, where such do not already exist, under the direction of a

commission. These clubs obtain concessions of various kinds, reduced fare on railroads, certain theater tickets at half price, free entrance to museums, discounts on books, special facilities to authors, free insurance against accidents happening during sports and on excursions, and minor facilities of various kinds.

During the past year a statistical department was created to collect and keep statistics relative to the movement. The report of this department indicates that about 7,000 societies in Italy are eligible for admission to the movement. Of these, 3,033 were members on April 1, 1928, as compared with 1,955 on April 1, 1927, and 1,497 on December 1, 1926. More than one-half were in two Provinces: Piedmont (with 897), and Lombardy (with 818). The number of individual ticket holders was 538,337 on April 1, 1928, as compared with 330,119 on April 1, 1927, and 2,219 on April 1, 1926. Of these ticket holders, 152,100 were connected with the railroads and 30,628 with the post office. In Rome 30,569 ticket holders were gathered into 48 societies meeting in 32 centers, with 16,516 enrolled in 6 suburban centers. Seven thousand Government employees were members of 49 centers.

INDUSTRIAL DISPUTES

Strikes and Lockouts in the United States in August, 1928

DATA regarding industrial disputes in the United States for August, 1928, with comparable data for preceding months are presented below. Disputes involving fewer than six workers and lasting less than one day have been omitted.

The bureau is dependent upon trade journals, newspapers and labor periodicals for notices of strikes. These reports are followed up by correspondence and when necessary by personal visits of representatives of the Conciliation Service or of this bureau.

Table 1 is a summary table showing for each of the months—June, 1927, to August, 1928, inclusive—the number of disputes which began in these months, the number in effect at the end of each month, and the number of workers involved. It also shows, in the last column, the economic loss (in man-days) involved. The number of workdays lost is computed by multiplying the number of workers affected in each dispute by the length of the dispute measured in working-days as normally worked by the industry or trade in question. It is to be noted that the figures given include only those disputes which have been verified by the bureau.

TABLE 1.—INDUSTRIAL DISPUTES BEGINNING IN, AND IN EFFECT AT END OF EACH MONTH, JANUARY, 1927, TO AUGUST, 1928

Month and year	Number of disputes		Number of workers involved in disputes		Number of man-days lost during month
	Beginning in month	In effect at end of month	Beginning in month	In effect at end of month	
January, 1927	37	18	5,915	2,287	58,125
February, 1927	65	45	9,756	5,717	115,229
March, 1927	74	67	13,142	8,182	214,283
April, 1927	87	88	202,406	199,701	5,265,420
May, 1927	107	116	22,245	200,702	5,136,006
June, 1927	80	88	18,957	196,323	4,863,345
July, 1927	65	63	33,994	199,287	5,308,123
August, 1927	57	53	8,150	198,444	4,999,751
September, 1927	57	58	12,282	196,829	4,945,702
October, 1927	50	58	13,024	82,095	2,724,117
November, 1927	27	51	5,282	82,607	2,040,140
December, 1927	28	54	4,281	81,229	2,129,153
January, 1928	43	62	18,263	81,676	2,135,092
February, 1928	47	61	33,602	104,883	2,155,559
March, 1928	34	63	7,145	78,362	2,343,415
April, 1928	62	70	143,834	134,382	4,884,430
May, 1928	72	74	15,138	136,094	3,526,608
June, 1928	40	64	20,941	134,406	3,580,719
July, 1928 [1]	52	64	17,304	135,681	3,403,778
August, 1928 [1]	40	67	8,461	134,050	3,675,508

[1] Preliminary figures, subject to revision.

Occurrence of Industrial Disputes, by Industries

TABLE 2 gives by industry the number of strikes beginning in June, July, and August, 1928, and the number of workers directly involved.

TABLE 2.—INDUSTRIAL DISPUTES BEGINNING IN JUNE, JULY, AND AUGUST, 1928

Industry	Number of disputes beginning in—			Number of workers involved in disputes beginning in—		
	June	July	August	June	July	August
Auto, carriage, and wagon workers		1			52	
Barbers	3	1	1	678	500	2,000
Building trades	11	8	4	4,179	327	650
Chauffeurs and teamsters		2	3		72	69
Clothing workers	6	14	10	8,174	1,815	749
Fishermen			1			75
Furniture		3			60	
Glass workers		3			167	
Hotel and restaurant employees	2			36		
Iron and steel workers			1			300
Leather			1			26
Lumber and timber workers	1		1	40		300
Metal trades	2	1	2	294	12	274
Mine workers	5	8	4	2,122	12,707	3,079
Motion-picture operators and theater workers		2	1		1,217	20
Printing and publishing		1	1		60	49
Shipbuilding			1			30
Street railway employees	1			116		
Street, sewer, and park employees			1			20
Textile workers	6	3	5	622	225	730
Miscellaneous	3	5	3	4,680	90	90
Total	40	52	40	20,941	17,304	8,461

Size and Duration of Industrial Disputes, by Industries

TABLE 3 gives the number of industrial disputes beginning in August, classified by number of workers and by industries:

TABLE 3.—NUMBER OF INDUSTRIAL DISPUTES BEGINNING IN AUGUST, 1928, CLASSIFIED BY NUMBER OF WORKERS AND BY INDUSTRIES

Industry	Number of disputes beginning in August, 1928, involving—					
	6 and under 20 workers	20 and under 100 workers	100 and under 500 workers	500 and under 1,000 workers	1,000 and under 5,000 workers	5,000 workers and over
Barbers					1	
Building trades		1	3			
Chauffeurs and teamsters	1	2				
Clothing workers	3	5	2			
Fishermen		1				
Iron and steel workers			1			
Leather		1				
Lumber and timber workers			1			
Metal trades		1	1			
Mine workers			1	2	1	
Motion-picture operators and theater workers		1				
Printing and publishing		1				
Shipbuilding		1				
Street, sewer, and park employees		1				
Textile workers	1	1	3			
Miscellaneous	1	2				
Total	6	18	12	2	2	

In Table 4 are shown the number of industrial disputes ending in August, by industries and classified duration:

TABLE 4.—NUMBER OF INDUSTRIAL DISPUTES ENDING IN AUGUST, 1928, BY INDUSTRIES AND CLASSIFIED DURATION

Industry	Classified duration of strikes ending in July, 1928					
	One-half month or less	Over one-half and less than 1 month	1 month and less than 2 months	2 months and less than 3 months	3 months and less than 4 months	9 months and less than 10 months
Barbers	1					
Building trades	4	1	4			
Chauffeurs and teamsters	2					
Clothing workers	5		1		1	
Fishermen	1					
Furniture workers						1
Hotel and restaurant employees			1			
Metal trades		1	1			
Mine workers	3	1	1			
Motion-picture operators and theater workers	1					
Printing and publishing	1					
Shipbuilding	1					
Street, sewer, and park employees	1					
Textile workers	3					
Miscellaneous	1					
Total	24	3	8		1	1

Principal Strikes and Lockouts Beginning in August, 1928

BARBERS, New York.—Approximately 2,000 barbers on the East Side of Manhattan, New York City, were on strike for unionization purposes from August 8 to August 13. About 800 shops were involved in this strike, which resulted, it is said, in a partial victory for the union.

Anthracite coal miners, Pennsylvania.—An 8-day strike of 1,438 miners in the Underwood Colliery of the Pennsylvania Coal Co. ended with the resumption of operations on August 21. The cause of this strike was reported as "failure to promptly negotiate a new wage scale covering Second and Third Dunmore Veins, No. 1 Shaft" of the colliery. The men voted to leave the settlement of their grievances to the president of District 1, United Mine Workers, and a committee representing the workers, members of the Underwood Colliery local of the Pennsylvania Coal Co.

Principal Strikes and Lockouts Continuing into August, 1928

TEXTILE operatives, Massachusetts.—According to press reports, on October 6 the unions voted to accept a proposal providing for a 5 per cent wage cut, coupled with the assurance that in the future 30 days' notice of any proposed wage change would be given the operatives.

Prior to the above developments all efforts to bring about a settlement had been unsuccessful, including a consideration of the so-called Frieder plan of standardization or specialization with increased production per worker and a guaranty that the weekly earnings of the average skilled or semiskilled operative under the new system would not be less than they were prior to April 9. The plan was suggested by a citizens' committee, but was rejected by the workers on September 11, unless the wage cut was rescinded. This development followed a conference between representatives of both sides, and the proposal of the manufacturers that the operatives accept both the 10 per cent wage cut and the labor specialization plan, and try to make up the loss through the greater earning possibilities of the specialization plan.

The manufacturers had refused to consider any settlement of the strike which involved the resumption of the wage scale in effect prior to April 9. In this connection the president of the New Bedford Cotton Manufacturers' Association issued the following statement on September 5:

> To those who hope to settle the strike by some compromise, I wish to state that:
>
> Any settlement of the strike based on payment of wage scale in force previous to April 9, will not be considered by the New Bedford Cotton Manufacturers' Association.
>
> There is nothing in the outlook that would justify any change in policy since April 9.
>
> There is no difference of opinion among the manufacturers on this point, despite the rumors to the contrary.
>
> While it is obvious that the manufacturers would like to see the mills again in operation, they can see no prospect of market conditions becoming such as to warrant paying higher wages than their competitors.
>
> The argument that some of our competitors have not reduced wages does not alter the fact that those that have a lower wage scale are making the market for all.
>
> With no production from our mills for 20 weeks, the demand for fine goods is no stronger and prices are no higher than before the strike, which makes it plain that New Bedford does not control the fine goods market, and indicates also that higher prices will be stubbornly resisted by the trade.
>
> If the New Bedford mills begin producing again, it is a question as to whether present prices can be maintained in view of the larger quantities of goods offered to the market.
>
> While I can appreciate and make allowance for the attitude and feeling of those whose income is reduced, I can not understand the point of view of those who encourage the operatives to continue the strike after they have lost 20 weeks of wages, nor can I comprehend how they can justify themselves.
>
> The community would not go bankrupt if the weekly pay roll was $540,000 a week instead of $600,000, but the $60,000 a week would be a welcome saving to our suffering stockholders.

Bituminous coal strikes.—In addition to the agreements heretofore mentioned, applicable to the affected areas, a wage agreement, statewide in its scope, subject to a referendum vote of Illinois coal miners, was signed by joint committees of miners and operators on Septem-

ber 1. The agreement was voted upon favorably on September 12 and runs for four years, from September 16, 1928, to March 31, 1932, and provides for a basic wage scale of 91 cents a ton for tonnage workers and $6.10 per day for day workers, as compared with the old Jacksonville scale of $1.08 and $7.50, respectively. This settlement for Illinois, marks the end of several weeks of negotiation following the abandonment of a demand for retention of the Jacksonville scale of wages by the miners.

Presidential Emergency Board For Dispute on Western Railroads

ON September 29, 1928, the President of the United States issued a proclamation creating an Emergency Board to investigate the wage dispute between 47 western railroads and their conductors and trainmen. The board must report its findings to the President within 30 days. Its membership is as follows:

James R. Garfield, of Cleveland, Ohio, Secretary of the Interior in the Roosevelt administration; Walter F. Stacy, of Raleigh, N. C., Chief Justice of the Supreme Court of North Carolina; Prof. Davis R. Dewey, of the Massachusetts Institute of Technology, Cambridge, Mass.; Chester R. Howell, of Berkeley, Calif.; and George T. Baker, of Davenport, Iowa.

This is the second time in the present calendar year that the President has had to intervene under the railroad labor act, the first instance being in the case of the dispute between the Kansas City, Mexico and Orient Railway and four railway labor organizations, which could not be adjusted by the United States Board of Mediation. The report of the first Emergency Board was made in May, 1928.[2]

Conciliation Work of the Department of Labor in August, 1928

By Hugh L. Kerwin, Director of Conciliation

THE Secretary of Labor, through the Conciliation Service, exercised his good offices in connection with 39 labor disputes during August, 1928. These disputes affected a known total of 14,865 employees. The table following shows the name and location of the establishment or industry in which the dispute occurred, the nature of the dispute (whether strike or lockout or controversy not having reached the strike or lockout stage), the craft or trade concerned, the cause of the dispute, its present status, the terms of settlement, the date of beginning and ending, and the number of workers directly and indirectly involved.

On September 1, 1928, there were 44 strikes before the department for settlement and in addition 20 controversies which had not reached the strike stage. The total number of cases pending was 64.

[2] Labor Review, Washington, June (p. 108) and August (pp. 114–117), 1928.

Company or industry and location	Nature of controversy	Craftsmen concerned	Cause of dispute	Present status and terms of settlement	Duration		Workers involved	
					Beginning	Ending	Directly	Indirectly
J. Anderson & Co., New York City	Strike	Hat trimmers	Union dispute	Unclassified. Satisfactorily settled before arrival of commissioner.	July 20	Aug. 1	40	30
Perlmutter & Blumenfeld, New York City.	do	do	do	do	do	do	43	25
Brewer Dry Dock Co., Mariner's Harbor, N. Y.	do	Ship calkers	Asked increase of 7 cents per hour—90 cents per hour.	Adjusted. Returned at 85 cents per hour—2 cents increase.	Aug. 1	Aug. 20	40	1,360
Mittry Bros., contractors, Riverside, Calif.	Controversy	Carpenters	Wage cut from $8 per day to $7.	Pending	July 18		30	125
Window washers, Newark, N. J	Strike	Window washers	Asked 2 extra holidays with pay—Lincoln's Birthday and election day.	do	June 28		70	22
Shell Oil Co., Sacramento, Calif.	Controversy	Gas-station building	Asked that all union labor be employed.	Unable to adjust	(1)	(1)	15	25
Jacob Rigorotsky, contractor, New York City.	do	Shirt and blouse makers.	Temporary closing of shop	Adjusted. Returned at $1.40 per dozen; union will allow reduction if too high for profit.	July 2	Aug. 8	25	
Painters, Anderson, Ind	do	Painters	Asked 10 cents per hour increase—$1 per hour.	Pending. Offer of 95 cents per hour not accepted.	Aug. 8		60	40
Lehigh & Wyoming Valley Coal Co., Dupont, Pa.	Strike	Miners	Wage rates	Adjusted. Returned temporarily; conferences in progress.	Aug. 7	Aug. 21	356	4
Grand Leader Department Store, Ft. Wayne, Ind.	do	Building	Agreement, scale, and union recognition.	Pending. Open-shop subcontractors employed.	Aug. 9		400	3,000
Greenpoint Shirt Laundry, New York City.	do	Laundry workers	Agreement and recognition	Unable to adjust. Union withdrew workers and found employment for them elsewhere.	Aug. 3	Aug. 6	6	
Bedford Shirt Laundry, New York City.	do	do	do	do	July 23	do	8	
Harry A. Wilson Co., New York City.	do	Pressers and cutters	Nonunion-shop work	Unclassified. Verbal agreement concluded before arrival of commissioner.	July 21	Aug. 2	5	8
Chicago Orchestral Association, Chicago, Ill.	Controversy	Musicians	Asked increase from $80 to $90 per week.	Adjusted. 3-year contract—first year, $84; second year, $87; third year, $90, for all members of orchestra.	Apr. 15	Aug. 8	90	
Street repair laborers, Plymouth, Pa.	Strike	Laborers	Asked increase	Adjusted. Allowed 15 cents per hour increase—50 cents.	Aug. 11	Aug. 11	11	7
Barbers, New York City	do	Barbers	Objection to nonunion shops	Adjusted. Collective agreement concluded.	Aug. 6	do	2,000	

(1) Not reported.

LABOR DISPUTES HANDLED BY THE UNITED STATES DEPARTMENT OF LABOR THROUGH ITS CONCILIATION SERVICE, AUGUST, 1928—Con.

Company or industry and location	Nature of controversy	Craftsmen concerned	Cause of dispute	Present status and terms of settlement	Duration		Workers involved	
					Beginning	Ending	Directly	Indirectly
Central Alloy Steel Corporation, Canton, Ohio.	do	Chippers and grinders	Asked $6 for 8-hour day and recognition of mill committee; wage cut.	Pending. (Court proceedings in progress.)	do		300	
Gairing & Regenold Bakery & Lunch, New York City.	do	Employees	Nonunion labor dispute; also employer working in bakeshop.	Unable to adjust. Shop refused further contractual relations.	June 2	Aug. 16	3	
Meade Construction Co., Indianapolis, Ind.	Controversy	Building	Requested union labor on project.	Adjusted. Union labor to be used	July 1	Aug. 15	150	50
Metal Polishers, Chicago, Ill	Strike	Metal polishers	Alleged discharges for union affiliation.	Pending	(1)		24	26
Columbus Amusement Co., New Kensington, Pa.	Controversy	Operators, stage hands	Terms of new contract	Adjusted. Agreement concluded fixing hours, wages, and overtime wages.	Aug. 15	Aug. 23	(1)	
Nicola Construction Co., Pittsburgh, Pa.	Strike	Building	Objection to nonunion labor	Adjusted. Union workers to be employed.	Aug. 21	do	200	500
Fishermen, New Bedford, Mass.	Controversy	Fishermen	Protest against existing wage scale.	Pending	Aug. 16		500	
A. I. U. Building, Columbus, Ohio	do	Building	Use of nonunion labor in violation of contract.	Adjusted. All work to be done by union men.	Aug. 15	Aug. 23	4	1
Pennsylvania Coal Co., Throop, Pa.	Strike	Miners	"Allowance pay" discontinued.	Adjusted. Returned; case to go to proper officials.	Aug. 14	Aug. 21	1,305	10
Prizer-Painter Stove Co., Reading, Pa.	do	Enamelers	Wages cut 5 cents per hour	Unclassified. Settled in conference of company and workers.	Aug. 9	Aug. 15	21	
Jas. Brady & Sons Co., Bayonne, N. J.	do	Drivers	Discharge of 4 men in violation of rules.	Unclassified. 3 men reinstated, 1 furloughed. Commissioner not engaged.	July 22	Aug. 13	13	
Molders, Seattle, Wash	do	Molders	Asked $1.10 increase per day, to $7.50.	Adjusted. Majority now receiving union scale.	Aug. 12	Sept. 4	44	186
Greenleaf Silk Co., Allentown, Pa.	do	Weavers	Wages	Adjusted. Returned at 1 per cent per yard wage cut.	Aug. 25	Aug. 31	2 9	15
Lehigh Valley Coal Co., Hazleton, Pa.	do	Miners	Union dues dispute	Adjusted. Returned; settled by disputants.	Aug. 7	Aug. 9	400	
Oppenheim & Gross, Philadelphia, Pa.	do	Clothing workers	Asked union recognition	Unable to adjust. Open shop effective.	Aug. 16	Sept. 5	30	
Lumber mills, Westchester County, N. Y.	do	Lumber-mill men	Asked 40-hour week at $9.50 per day.	Pending	Aug. 29		300	
Pennsylvania Coal Co., Pittston, Pa.	do	Miners	Company refused to recognize "rump" grievance committee.	Adjusted. Company agreed to meet the committee as employees.	Aug. 7	Aug. 28	1,650	

Ladies' garment workers, New York City.	Controversy	Garment makers	Organization trouble.	Adjusted. Many shops completed their organization.	Aug. 21	Aug. 25	[1]	-------
Musicians and exhibitors, Chicago, Ill.	------do------	Musicians	Asked renewal of agreement. Exhibitors desired elimination of orchestras in 52 class 6 theaters.	Adjusted. Compromised on number of weeks of employment per annum.	Aug. 31	Sept. 7	650	325
Operators, Indiana Harbor, Ind.	Threatened strike.	Operators of motion-picture machines.	Asked $2 per week increase and agreement.	Adjusted. Operators allowed $2 per week increase.	Aug. 30	Sept. 1	20	10
Newport News Engineering Co., Cleveland, Ohio.	Controversy	Building	Objection to nonunion labor	Pending	Aug. 14	----------	10	40
Indiana Theater, Indiana Harbor, Ind.	Threatened strike.	Stage hands	Asked $1 per week increase and agreement to Feb. 1, 1929.	Adjusted. Allowed as asked	Aug. 30	Sept. 1	4	-------
London Fixture Co., New York City.	Strike	Electrical workers	Asked 12½ cents per hour increase and 44-hour week.	Adjusted. Allowed as asked—$1.12½ per hour; 44-hour week	Aug. 17	Aug. 27	200	-------
Total							9,056	5,809

[1] Not reported.

Strikes in Buenos Aires, 1927

ACCORDING to official statistics published by the National Department of Labor of Argentina [1] there were 56 strikes affecting 36,888 workers in the Federal capital during the year 1927.

The following table shows the number of strikes and strikers by sex and by industry:

NUMBER OF STRIKES AND WORKERS INVOLVED IN STRIKES IN BUENOS AIRES IN 1927, BY INDUSTRY AND SEX

Occupational group	Number of strikes	Number of strikers		
		Men	Women	Total
Bakery workers	1	3,500		3,500
Dye workers	1	150	100	250
Textile workers	2	520	80	600
Boot and shoe workers	12	1,008	45	1,053
Woodworkers	9	591		591
Metal workers	4	85		85
Electricians	1	250		250
Construction workers	5	621		621
Paper-box workers	1	68		68
Printing-trades workers	3	370		370
Restaurant waiters	2	90		90
Slaughterhouse workers	1	10		10
Chauffeurs	4	25,005		25,005
Other transport workers	10	4,395		4,395
Total	56	36,663	225	36,888

The causes of the strikes were questions of wages, hours of labor, organization, and working conditions. The strikes caused a loss of 363,492 working-days and a loss of 2,087,730 pesos.[2]

[1] Asociacion del Trabajo. Boletin de Servicios. Buenos Aires, July 5, 1928, pp. 291–293.
[2] Average exchange rate of peso in 1927=96.3 cents.

WAGES AND HOURS OF LABOR

Wages and Hours of Labor in Cotton-Goods Manufacturing, 1928

DURING March, April, May, and June, 1928, the Bureau of Labor Statistics made a study of wages and hours of labor of wage earners in the cotton-goods manufacturing industry in the United States. Data were collected by agents of the bureau from the pay rolls and other records of 158 representative cotton mills in 11 States [1] for 49,861 males and 38,145 females. These States are the most important in number of wage earners, according to the 1925 Census of Manufactures, and in that year employed 88½ per cent of the total number in the industry.

The 1928 industry averages of full-time hours per week, earnings per hour, and full-time earnings per week and like figures for each of the specified years from 1910 to 1926 with index numbers of these averages (the 1913 average being taken as the base or 100 per cent) are presented in Table 1. The 1928 figures in detail will be available later in bulletin form. The figures in the table are for employees in selected occupations only for each of the years from 1910 to 1914 and for employees in all occupations in the industry from 1914 to 1928. Prior to 1914, because of lack of funds and of time necessary to collect and compile reports, the wage studies in this and other industries were limited to certain major occupations. Two sets of figures are shown for 1914—one for 36,578 employees in the selected occupations in the 90 establishments and the other for 78,582 employees in all ocupations in the 90 establishments. Average full-time hours per week for employees in all occupations in the industry in 1914 were 0.4 of an hour per week (or 0.7 per cent) more than for those in selected occupations only, and average earnings were 1.2 cents per hour (or 7.3 per cent) less and 61 cents per week (or 6.6 per cent) less, for employees in all occupations than for those in selected occupations.

Index numbers are given (on the basis of 1913 = 100) for the purpose of making comparisons of one year with another. In order to make the series continuous and comparable, the index numbers for 1914 for selected occupations have been increased or decreased in proportion to the increase or decrease in the averages for all occupations as between 1914 and the specified succeeding year.

Average full-time hours per week decreased each year from 1910 to 1920 and then gradually increased again up to 1928, the decrease between 1913 and 1920 amounting to 10.3 per cent and the increase between 1920 and 1928 to 3.1 per cent.

Average earnings per hour increased greatly from 1910 to 1920, rising from an index of 87.5 to one of 323.5; they dropped, however, to 222.4 in 1922, increased again to 250.7 in 1924, and then decreased to 221 in 1926 and 218.3 in 1928. The increase between 1913 and 1920 was 223.5 per cent and the decrease between 1920 and 1928 was 32.5 per cent. Average full-time earnings per week followed somewhat the same course as earnings per hour, increasing from an

[1] Alabama, Connecticut, Georgia, Maine, Massachusetts, New Hampshire, New York, North Carolina, Rhode Island, South Carolina, and Virginia.

index of 89.5 in 1910 to 291.8 in 1920, decreasing to 204.5 in 1922, increasing again to 231.5 in 1924 and then falling to 205.2 in 1926 and to 202.7 in 1928. The increase between 1913 and 1920 was 191.8 per cent and the decrease between 1920 and 1928 was 30.5 per cent. The changes which were taking place in average full-time hours per week were responsible for the fact that average earnings per week did not increase or decrease as markedly as the average earnings per hour.

TABLE 1.—AVERAGE HOURS AND EARNINGS WITH INDEX NUMBERS, 1910 TO 1928

[1913 average=100]

Year	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week	Index numbers of—		
						Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Selected occupations:								
1910	59	20,725	58.5	$0.140	$8.16	102.1	87.5	89.5
1911	88	34,397	58.4	.144	8.36	101.9	90.0	91.7
1912	88	35,941	57.4	.158	9.00	100.2	98.8	98.7
1913	88	36,498	57.3	.160	9.12	100.0	100.0	100.0
1914 [1]	90	36,578	56.4	.165	9.24	98.4	103.1	101.3
All occupations:								
1914 [1]	90	78,582	56.8	.153	8.63			
1916	106	85,233	56.9	.179	10.08	98.6	120.6	118.3
1918	106	81,121	56.0	.267	14.95	97.0	179.9	175.5
1920	96	59,548	51.8	.480	24.86	89.7	323.5	291.8
1922	97	62,833	52.8	.330	17.42	91.5	222.4	204.5
1924	114	77,995	53.0	.372	19.72	91.8	250.7	231.5
1926	151	82,982	53.3	.328	17.48	92.3	221.0	205.2
1928	158	88,006	53.4	.324	17.30	92.5	218.3	202.7

[1] Two sets of averages are shown for 1914 for the industry—one for selected occupations and the other for all occupations in the industry. The 1910 to 1914 averages for selected occupations only are comparable one year with another, as are those for all occupations one year with another from 1914 to 1928.

Table 2 presents for 1926 and 1928 the average full-time hours per week, earnings per hour, and full-time earnings per week for all males and for all females, separately, in each of the selected occupations in the cotton-goods manufacturing industry and for all other employees combined.

Average full-time hours per week of males in 1926 in the various occupations ranged from 48.4 for mule spinners to 59.2 for spooler tenders, and of females from 49.8 for beamer tenders to 53.7 for creelers or tiers-in. The 1928 averages for males ranged from 48.3 for mule spinners to 57.8 for frame spinners, and for females from 49.6 for slubber tenders to 54 for creelers or tiers-in.

Average earnings per hour of males in 1926 in the various occupations ranged from 19 cents for spooler tenders to 65.6 cents for mule spinners, and of females from 24.6 cents for spooler tenders and trimmers or inspectors to 41.1 cents for beamer tenders. The 1928 averages for males ranged from 22.4 cents per hour for spooler tenders to 62.7 cents for mule spinners, and for females from 23.9 cents for creelers or tiers-in to 44.2 cents for beamer tenders.

Average full-time earnings per week of males in 1926 ranged from $11.25 for spooler tenders to $31.75 for mule spinners, and of females from $12.94 for trimmers or inspectors to $20.47 for beamer tenders. The 1928 averages for males ranged from $12.30 per week for spooler tenders to $30.28 for mule spinners, and for females from $12.72 for trimmers or inspectors to $22.67 for beamer tenders.

TABLE 2.—AVERAGE HOURS AND EARNINGS, 1926 AND 1928, BY OCCUPATION

Occupation	Sex	Year	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Picker tenders	Male	1926	151	964	54.1	$0.297	$16.07
		1928	157	1,171	54.5	.282	15.37
Card tenders and strippers	do	1926	151	1,644	54.1	.322	17.42
		1928	157	1,757	54.2	.314	17.02
Card grinders	do	1926	147	475	53.7	.414	22.23
		1928	149	507	53.9	.407	21.94
Drawing-frame tenders	do	1926	123	822	55.0	.279	15.35
		1928	135	987	54.9	.282	15.48
	Female	1926	68	682	51.9	.281	14.58
		1928	58	667	52.5	.272	14.28
Slubber tenders	Male	1926	148	1,091	54.3	.377	20.47
		1928	155	1,104	54.5	.365	19.89
	Female	1926	11	52	50.1	.398	19.94
		1928	11	42	49.6	.403	19.99
Speeder tenders	Male	1926	139	2,545	55.1	.343	18.90
		1928	147	2,913	55.1	.345	19.01
	Female	1926	124	2,950	51.0	.368	18.77
		1928	127	2,995	51.2	.359	18.38
Spinners, mule	Male	1926	8	200	48.4	.656	31.75
		1928	13	316	48.3	.627	30.28
Spinners, frame	do	1926	54	561	55.1	.289	15.92
		1928	43	487	57.8	.339	19.59
	Female	1926	151	9,684	53.5	.282	15.09
		1928	158	10,418	52.9	.276	14.60
Doffers	Male	1926	146	3,657	54.2	.307	16.64
		1928	154	3,945	54.6	.311	16.98
	Female	1926	32	502	51.4	.344	17.68
		1928	23	392	51.4	.325	16.71
Spooler tenders	Male	1926	6	24	59.2	.190	11.25
		1928	8	16	54.9	.224	12.30
	Female	1926	151	4,136	53.6	.246	13.19
		1928	158	4,617	53.7	.243	13.05
Creelers or tiers-in	Male	1926	21	49	55.1	.274	15.10
		1928	19	65	55.2	.298	16.45
	Female	1926	117	640	53.7	.249	13.37
		1928	126	718	54.0	.239	12.91
Warper tenders	Male	1926	48	157	55.3	.348	19.24
		1928	52	164	55.4	.332	18.39
	Female	1926	118	581	52.6	.347	18.25
		1928	119	572	52.8	.329	17.37
Beamer tenders	Male	1926	43	269	53.0	.493	26.13
		1928	46	270	54.7	.441	24.12
	Female	1926	5	32	49.8	.411	20.47
		1928	6	31	51.3	.442	22.67
Slasher tenders	Male	1926	146	751	53.3	.411	21.91
		1928	154	786	53.7	.396	21.27
Drawers-in, hand	do	1926	19	44	55.1	.330	18.18
		1928	7	11	55.2	.299	16.50
	Female	1926	116	947	52.1	.357	18.60
		1928	127	990	52.5	.359	18.85
Drawing-in machine tenders	Male	1928	63	110	53.3	.441	23.51
	Female	1928	11	21	52.7	.414	21.82
Warp-tying machine tenders	Male	1926	113	278	54.0	.422	22.79
		1928	108	254	54.1	.407	22.02
Loom fixers	do	1926	151	3,329	53.5	.489	26.16
		1928	158	3,541	53.7	.482	25.88
Weavers	do	1926	151	8,603	53.2	.396	21.07
		1928	158	10,326	53.4	.392	20.93
	Female	1926	151	7,596	51.9	.375	19.46
		1928	158	8,123	52.2	.371	19.37
Trimmers or inspectors	Male	1926	45	190	53.0	.295	15.64
		1928	50	201	54.7	.278	15.21
	Female	1926	132	1,932	52.6	.246	12.94
		1928	141	2,255	52.8	.241	12.72
Other employees	Male	1926	151	21,226	53.8	.308	16.57
		1928	158	20,930	53.7	.302	16.22
	Female	1926	149	6,369	53.1	.252	13.38
		1928	157	6,304	52.5	.256	13.44
All employees	Male	1926	151	46,879	53.8	.347	18.67
		1928	158	49,861	53.9	.345	18.60
	Female	1926	151	36,103	52.8	.301	15.89
		1928	158	38,145	52.9	.296	15.66
All employees, male and female		1926	151	82,982	53.3	.328	17.48
		1928	158	88,006	53.4	.324	17.30

Table 3 presents for each State, for 1928, the average full-time hours per week, earnings per hour, and full-time earnings per week of employees in four of the selected occupations in the cotton-goods manufacturing industry.

In the occupation of speeder tenders, the average full-time hours per week of males ranged in the various States from 48.5 to 56.2 and those of females from 48 to 56.3 per week. The average for all males in this occupation was 55.1 and for all females 51.2 per week. Average earnings per hour of males, by States, ranged from 27.6 to 48.8 cents, and those of females from 25.8 to 42.1 cents, while the average for all males was 34.5 cents and for all females 35.9 cents per hour. Average full-time earnings per week of males ranged from $15.18 to $25.88 and of females from $14.19 to $22.04. The average for all males in the occupation in all States was $19.01 and for all females $18.38.

TABLE 3.—AVERAGE HOURS AND EARNINGS FOR 4 SELECTED OCCUPATIONS, 1928, BY SEX AND STATE

Occupation, sex, and State	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Speeder tenders, male:					
Alabama	6	136	55.0	$0.276	$15.18
Connecticut	4	42	50.7	.453	22.97
Georgia	15	500	55.9	.307	17.16
Maine	5	29	55.0	.390	21.45
Massachusetts	18	240	52.7	.461	24.29
New Hampshire	5	62	53.8	.481	25.88
New York	3	33	48.5	.476	23.09
North Carolina	51	950	56.2	.333	18.71
Rhode Island	14	92	52.7	.488	25.72
South Carolina	23	696	55.0	.296	16.28
Virginia	3	133	55.2	.385	21.25
Total	147	2,913	55.1	.345	19.01
Speeder tenders, female:					
Alabama	6	167	55.0	.258	14.19
Connecticut	6	171	50.2	.390	19.58
Georgia	10	175	56.3	.294	16.55
Maine	5	174	54.0	.315	17.01
Massachusetts	23	1,117	48.0	.366	17.57
New Hampshire	6	206	53.1	.415	22.04
New York	3	172	48.4	.393	19.02
North Carolina	34	165	55.7	.305	16.99
Rhode Island	15	433	52.0	.421	21.89
South Carolina	16	189	55.0	.274	15.07
Virginia	3	26	55.3	.338	18.69
Total	127	2,995	51.2	.359	18.38
Spinners, frame, male:					
Connecticut	2	3	55.0	.369	20.30
Massachusetts	11	235	59.9	.408	24.44
New Hampshire	4	25	53.6	.466	24.98
New York	2	10	48.0	.451	21.65
North Carolina	10	103	58.0	.219	12.70
South Carolina	11	87	55.0	.200	11.00
Other States	3	24	54.4	.272	14.80
Total	43	487	57.8	.339	19.59
Spinners, frame, female:					
Alabama	6	695	55.0	.215	11.83
Connecticut	6	224	51.2	.350	17.92
Georgia	16	1,494	56.1	.222	12.45
Maine	5	266	54.0	.311	16.79
Massachusetts	23	1,570	48.0	.350	16.80
New Hampshire	6	516	53.6	.407	21.82
New York	3	233	48.3	.391	18.89
North Carolina	52	2,283	55.9	.242	13.53

TABLE 3.—AVERAGE HOURS AND EARNINGS FOR 4 SELECTED OCCUPATIONS, 1928, BY SEX AND STATE—Continued

Occupation, sex, and State	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Spinners, frame, female—Continued.					
Rhode Island	15	647	52.5	$0.367	$19.27
South Carolina	23	2,257	55.0	.215	11.83
Virginia	3	233	55.1	.286	15.76
Total	158	10,418	52.9	.276	14.60
Loom fixers, male:					
Alabama	6	220	55.0	.395	21.73
Connecticut	6	123	51.4	.589	30.27
Georgia	16	450	56.2	.379	21.30
Maine	5	120	54.0	.548	29.59
Massachusetts	23	647	49.4	.592	29.24
New Hampshire	6	183	53.7	.647	34.74
New York	3	113	48.5	.606	29.39
North Carolina	52	752	56.1	.418	23.45
Rhode Island	15	266	51.9	.615	31.92
South Carolina	23	574	55.0	.377	20.74
Virginia	3	93	55.2	.481	26.55
Total	158	3,541	53.7	.482	25.88
Weavers, male:					
Alabama	6	389	55.0	.311	17.11
Connecticut	6	559	50.7	.446	22.61
Georgia	16	1,194	56.1	.309	17.33
Maine	5	133	54.0	.424	22.90
Massachusetts	23	2,766	50.0	.431	21.55
New Hampshire	6	185	54.3	.501	27.20
New York	3	170	48.6	.538	26.15
North Carolina	52	2,456	55.9	.370	20.68
Rhode Island	15	775	52.2	.498	26.00
South Carolina	23	1,438	55.0	.313	17.22
Virginia	3	261	55.1	.406	22.37
Total	158	10,326	53.4	.392	20.93
Weavers, female:					
Alabama	6	384	55.0	.299	16.45
Connecticut	6	451	50.2	.405	20.33
Georgia	16	718	56.0	.292	16.35
Maine	5	179	54.0	.397	21.44
Massachusetts	23	2,742	48.0	.405	19.44
New Hampshire	6	223	52.5	.493	25.88
New York	3	196	48.5	.458	22.21
North Carolina	52	1,514	55.9	.333	18.61
Rhode Island	15	573	52.0	.469	24.39
South Carolina	23	968	55.0	.277	15.24
Virginia	3	175	55.2	.349	19.26
Total	158	8,123	52.2	.371	19.37

Table 4 shows, for each sex and for both sexes combined, the average full-time hours per week, earnings per hour, and full-time earnings per week in each State in 1926 and in 1928.

Average full-time hours per week for all males in 1926 in various States ranged from 49 to 57, and for females from 48 to 56.9. The average hours for males in 1928 ranged from 48.6 in the State with the lowest to 56.2 in the one with the highest average, and for females from 47.9 to 56 per week. The average for males and females combined, or the industry, ranged from 48.5 to 57 in 1926 and from 48.5 to 56.1 in 1928. Between 1926 and 1928 averages for males and females combined decreased in five States, increased in four States, and remained unchanged in two States.

Average earnings per hour for males in 1926 ranged by States from 26.5 cents to 46.8 cents, for females from 20.9 to 39 cents, and for both

sexes combined from 24.2 to 42.9 cents. For males the low rate remained in 1928 the same as in 1926, but the high rate was only 45.5 as compared with 46.8 cents in the former year. For females the low rate was in 1928, 21.6 but the high rate was 38.1 cents. For both sexes combined the range in 1928 was from 24.4 to 41.9 cents per hour. Between 1926 and 1928, average earnings per hour for both sexes decreased in 4 and increased in 7 of the 11 States included in the study. The decreases by States ranged from 0.8 to 4.2 cents per hour, and the increases by States ranged from 0.2 to 1.3 cents per hour. For males and females in all States combined, or the industry, averages decreased from 32.8 cents per hour in 1926 to 32.4 cents in 1928.

Average full-time earnings per week for males in 1926 ranged by States from $14.55 to $25.27, for females from $11.43 to $20.90, and for both sexes combined from $13.26 to $23.08 per week. The 1928 averages for males ranged from $14.58 to $24.52, for females from $11.88 to $20.31, and for both sexes combined from $13.42 to $22.46 per week. Between 1926 and 1928 average full-time earnings per week for both sexes combined decreased in 4 and increased in 7 of the 11 States covered in these two years. The decreases by States ranged from 62 cents to $2.20 per week and the increases ranged from 16 to 97 cents per week. For males and females in all States combined, or the industry, the average full-time weekly earnings decreased from $17.48 in 1926 to $17.30 per week in 1928.

TABLE 4.—NUMBER OF ESTABLISHMENTS AND OF WAGE EARNERS, AND AVERAGE HOURS AND EARNINGS, 1926 AND 1928, BY STATE AND SEX

State and sex	Number of establishments		Number of employees		Average full-time hours per week		Average earnings per hour		Average full-time earnings per week	
	1926	1928	1926	1928	1926	1928	1926	1928	1926	1928
Alabama:										
Male	6	6	3,129	3,185	54.9	55.0	$0.265	$0.0265	$14.55	$14.58
Female	6	6	2,223	2,426	54.7	55.0	.209	.216	11.43	11.88
Total	6	6	5,352	5,611	54.8	55.0	.242	.244	13.26	13.42
Connecticut:										
Male	6	6	1,566	1,645	50.9	50.9	.419	.423	21.33	21.53
Female	6	6	1,352	1,464	50.6	50.7	.348	.352	17.61	17.85
Total	6	6	2,918	3,109	50.8	50.8	.386	.391	19.61	19.86
Georgia:										
Male	15	16	5,988	6,679	57.0	56.2	.268	.281	15.28	15.79
Female	15	16	3,777	4,598	56.9	56.0	.220	.228	12.52	12.77
Total	15	16	9,765	11,277	57.0	56.1	.250	.260	14.25	14.59
Maine:										
Male	5	5	1,482	1,163	54.0	54.1	.415	.370	22.41	20.02
Female	5	5	1,755	1,477	53.8	54.0	.327	.291	17.59	15.71
Total	5	5	3,237	2,640	53.9	54.1	.369	.327	19.89	17.69
Massachusetts:										
Male	23	23	8,611	9,223	49.0	49.7	.450	.427	22.05	21.22
Female	23	23	8,694	9,112	48.0	47.9	.374	.353	17.95	16.91
Total	23	23	17,305	18,335	48.5	48.8	.413	.392	20.03	19.13

TABLE 4.—NUMBER OF ESTABLISHMENTS AND OF WAGE EARNERS, AND AVERAGE HOURS AND EARNINGS, 1926 AND 1928, BY STATE AND SEX—Continued

State and sex	Number of establishments		Number of employees		Average full-time hours per week		Average earnings per hour		Average full-time earnings per week	
	1926	1928	1926	1928	1926	1928	1926	1928	1926	1928
New Hampshire:										
Male	6	6	2,110	1,969	54.0	53.9	$0.468	$0.455	$25.27	$24.52
Female	6	6	2,163	2,018	53.6	53.3	.390	.381	20.90	20.31
Total	6	6	4,273	3,987	53.8	53.6	.429	.419	23.08	22.46
New York:										
Male	3	3	978	945	49.6	48.6	.446	.439	22.12	21.34
Female	3	3	1,216	1,156	48.7	48.4	.383	.375	18.65	18.15
Total	3	3	2,194	2,101	49.1	48.5	.412	.404	20.23	19.59
North Carolina:										
Male	47	52	11,362	12,561	55.8	55.8	.308	.312	17.19	17.41
Female	47	52	6,259	6,949	55.8	55.8	.252	.262	14.06	14.62
Total	47	52	17,621	19,510	55.8	55.8	.289	.295	16.13	16.46
Rhode Island:										
Male	12	15	2,396	2,990	50.3	52.1	.440	.443	22.13	23.08
Female	12	15	2,375	2,764	50.1	52.2	.372	.373	18.64	19.47
Total	12	15	4,771	5,754	50.2	52.2	.407	.410	20.43	21.40
South Carolina:										
Male	22	23	7,655	8,116	55.2	55.0	.272	.281	15.01	15.46
Female	22	23	4,976	5,254	55.0	55.0	.219	.224	12.05	12.32
Total	22	23	12,631	13,370	55.1	55.0	.252	.260	13.89	14.30
Virginia:										
Male	3	3	1,274	1,385	55.2	55.2	.332	.345	18.33	19.04
Female	3	3	888	927	55.2	55.1	.262	.272	14.46	14.99
Total	3	3	2,162	2,312	55.2	55.1	.303	.316	16.73	17.41
All States:										
Male	151	158	46,879	49,861	53.8	53.9	.347	.345	18.67	18.60
Female	151	158	36,103	38,145	52.8	52.9	.301	.296	15.89	15.66
Total	151	158	82,982	88,006	53.3	53.4	.328	.324	17.48	17.30

Entrance Wage Rates for Common Labor, July 1, 1928

THE data upon which this survey is based are entrance rates only; that is, rates of pay per hour for unskilled adult male common laborers when first hired.

The term "common labor" has many interpretations among different industries, and even among different localities or plants in the same industry. Also, many employers make a practice of increasing the rate of pay of a laborer after a stated length of service, provided a sufficient degree of fitness for the job has been developed; otherwise the employee is dropped. Owing to these difficulties in the way of securing comparable data as to wage rates for common labor, the Bureau of Labor Statistics has confined these statistics to entrance rates alone.

This survey is limited to 13 important industries, which require considerable numbers of common laborers. Some establishments have reported two rates—for example, one for the 10-hour day and one for the 8-hour day, or one for white and one for colored or Mexican

workers; these distinctions have not been maintained in the tabulated data, although it is apparent that the lowest rates are shown for those geographic divisions where there are large numbers of colored or Mexican workers, while the highest rates are shown for localities where an 8-hour day is more or less prevalent.

The industries included in this survey and the number of common laborers employed at entrance rates in the establishments reporting in each specified industry, on July 1, 1928, are as follows:

Automobiles	22,857
Brick, tile, and terra cotta	3,675
Cement	1,679
Electrical machinery, apparatus, and supplies	2,856
Foundry and machine-shop products	9,084
Iron and steel	18,465
Leather	3,503
Lumber (sawmills)	12,813
Paper and pulp	8,749
Petroleum refining	4,045
Slaughtering and meat packing	11,935
Public utilities	16,167
General contracting	41,845
Total	157,673

The number of common laborers employed at entrance rates in the establishments reporting in each of the nine geographic divisions of the United States, on July 1, 1928, was:

New England	8,508
Middle Atlantic	30,702
East North Central	54,688
West North Central	16,279
South Atlantic	13,346
East South Central	6,669
West South Central	9,681
Mountain	4,760
Pacific	13,040
Total	157,673

The weighted average hourly common-labor entrance rate for the several industries combined, on July 1, 1928, was 44.9 cents. The general-contracting industry reported the highest rate, $1.12½, in the Middle Atlantic division, while the lowest rate, 16 cents, was paid in the sawmill industry, in the South Atlantic division.

The highest average rate per hour for any industry, 57.2 cents, appears in the automobile industry, followed by 47.4 cents in general contracting, 46 cents in electrical machinery, and 45.4 cents in petroleum refining; the lowest average rate, 31.7 cents, appears in the sawmill industry.

The highest average rate in the nine geographic divisions, 51.6 cents, appears in the East North Central division. The New England, Middle Atlantic, and Pacific divisions show average rates ranging between 46.9 cents and 48.2 cents. The lowest average rate, 26 cents, appears in the East South Central division.

The weighted average entrance rates per hour for all industries represented in this study, including general contracting, have been as follows: July 1, 1926, 42.8 cents; October 1, 1926, 43.4 cents; January

1, 1927, 43.2 cents; July 1, 1927, 42.6 cents; January 1, 1928, 43 cents; July 1, 1928, 44.9 cents.

Omitting data for general contracting, which industry was first included in these compilations on July 1, 1926, average entrance rates per hour for the periods studied have been: January 1, 1926, 40.2 cents; April 1, 1926, 40.5 cents; July 1, 1926, 40.9 cents; October 1, 1926, 40.9 cents; January 1, 1927, 41 cents; July 1, 1927, 40.4 cents; January 1, 1928, 41.1 cents; July 1, 1928, 44.1 cents.

The rather pronounced increase in the average rate for July 1, 1928, as compared with average rates for previous periods, is due to the great activities of certain very large plants during the last few months. These plants have high entrance rates, and recent activities have necessitated the taking on of vast numbers of common laborers.

The table following shows, for each industry included, the high, low, and average common-labor entrance rates per hour in each geographic division and in the United States as a whole:

HOURLY WAGE RATES PAID FOR COMMON LABOR, JULY 1, 1928

[The rates on which this table is based are entrance rates paid for adult male common labor]

Industry	United States	Geographic division								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Automobiles:	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
Low	33.3	------	35.0	35.0	33.3	------	------	------	------	50.0
High	62.5	------	62.5	62.5	62.5	------	------	------	------	55.0
Average	57.2	------	42.7	57.9	51.6	------	------	------	------	51.3
Brick, tile, and terra cotta:										
Low	17.5	40.0	36.0	30.0	27.0	17.5	17.5	25.0	38.5	42.5
High	54.0	50.0	54.0	47.5	37.5	40.0	37.0	37.5	40.0	53.0
Average	39.4	48.2	47.6	38.9	32.7	27.1	25.0	27.8	39.2	47.1
Cement:										
Low	25.0	------	35.0	35.0	33.0	------	26.0	25.0	------	34.0
High	56.0	------	45.0	44.0	43.5	------	40.0	28.0	------	56.0
Average	37.2	------	42.6	39.0	35.4	------	28.7	27.2	------	49.5
Electrical machinery, apparatus, and supplies:										
Low	31.0	35.0	38.0	40.0	31.0	40.0	------	------	------	------
High	55.0	48.0	51.0	55.0	40.0	45.0	------	------	------	------
Average	46.0	43.8	44.1	50.0	36.3	42.5	------	------	------	------
Foundry and machine-shop products:										
Low	20.0	33.0	30.0	35.0	33.0	20.0	22.5	22.5	40.0	44.0
High	55.0	45.0	51.0	55.0	50.0	43.8	37.5	31.3	40.0	55.0
Average	38.4	39.0	40.4	42.2	39.4	27.8	31.0	28.4	40.0	51.1
Iron and steel:										
Low	20.0	40.0	30.0	35.0	35.0	20.0	23.5	------	41.0	42.5
High	50.0	45.0	50.0	50.0	40.0	44.0	31.0	------	49.0	45.0
Average	42.5	41.8	42.6	43.9	37.4	36.4	27.8	------	48.8	43.8
Leather:										
Low	22.5	47.9	33.0	30.0	------	22.5	25.0	------	------	43.8
High	62.5	54.2	50.0	60.0	------	40.0	33.0	------	------	62.5
Average	42.3	50.3	45.1	42.3	------	33.3	31.0	------	------	50.7
Lumber (sawmills):										
Low	16.0	33.3	30.0	30.0	30.0	16.0	17.5	20.0	25.0	29.0
High	62.5	36.0	40.0	62.5	37.5	35.0	25.0	25.0	42.5	50.0
Average	31.7	34.4	37.6	35.6	34.5	21.5	21.0	22.8	37.4	42.0
Paper and pulp:										
Low	25.0	33.3	32.0	32.5	35.0	30.0	25.0	25.0	------	40.0
High	55.0	50.0	50.0	55.0	45.0	38.3	28.0	30.0	------	51.3
Average	44.3	47.6	41.7	45.8	39.5	36.4	25.9	26.8	------	42.1
Petroleum refining:										
Low	30.0	------	45.0	50.0	50.0	30.0	------	30.0	45.0	53.0
High	62.0	------	53.0	50.0	50.0	50.0	------	51.0	60.0	62.0
Average	45.4	------	46.7	50.0	50.0	44.2	------	41.6	54.0	57.7

HOURLY WAGE RATES PAID FOR COMMON LABOR, JULY 1, 1928—Continued

Industry	United States	Geographic division								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
Slaughtering and meat packing:										
Low	37.5	38.0	40.0	37.5	37.5	40.0	.....	37.5	40.0	40.0
High	50.0	50.0	45.0	45.0	45.0	40.0	.....	42.5	40.0	42.5
Average	42.2	43.2	41.7	42.1	42.3	40.0	.....	41.9	40.0	42.0
Public utilities: [1]										
Low	20.0	35.0	40.0	32.5	30.0	20.0	25.0	25.0	35.0	33.0
High	75.0	59.5	56.3	75.0	40.0	45.0	40.0	50.0	42.0	56.3
Average	42.9	44.6	44.9	51.5	34.0	31.7	29.7	30.2	36.3	50.7
General contracting: [2]										
Low	17.5	35.0	30.0	25.0	30.0	20.0	17.5	20.0	35.0	37.5
High	112.5	79.0	112.5	90.0	75.0	75.0	40.0	50.0	62.5	75.0
Average	47.4	56.9	57.5	56.4	41.4	28.4	27.3	34.7	47.2	50.3
Total: Low	16.0	33.0	30.0	25.0	27.0	16.0	17.5	20.0	25.0	29.0
High	112.5	79.0	112.5	90.0	75.0	75.0	40.0	51.0	62.5	75.0
Average	44.9	48.2	47.8	51.6	41.3	29.4	26.0	33.8	44.0	46.9

[1] Includes street railways, gas works, waterworks, and electric power and light plants.
[2] Includes building, highway, public works, and railroad construction.

Wages and Hours of Labor in European Coal Mines

A STUDY of wages and hours of labor in the coal-mining industry of the principal coal-producing countries of Europe has recently been published by the International Labor Office.[1] The data relate to the year 1925. The countries covered are Belgium, Czechoslovakia, France, Germany, Great Britain, the Netherlands, Poland, and the Saar territory. In 1925 these countries produced about 95 per cent of the total European output, although only about 45 per cent of the world output.

Hours of Labor

TABLE 1, taken from the report, shows the average daily hours of work in 1925 in the coal mines of the countries mentioned. The hours of attendance of underground workers were reduced to a uniform basis; that is, the length of the individual day shift, corresponding to the time spent by the individual worker from the moment he entered the cage to descend to the moment he left the cage after being raised to the surface. The hours spent at the face were obtained by subtracting from the hours of attendance the time spent in walking from the shaft bottom to the place of work and vice versa, and the average length of breaks in the working time, no deductions being made for other time losses resulting from elements inherent in the work. The hours of labor of surface workers were determined on practically the same basis in the different countries, the "hours of real work" being based on the legal or contractual hours, excluding breaks.

[1] International Labor Office. Studies and reports, series D (wages and hours of work), No. 18: Wages and hours of work in the coal-mining industry. Geneva, 1928.

TABLE 1.—AVERAGE DAILY HOURS OF LABOR IN EUROPEAN COAL MINES, 1925

Country and district	Underground workers				Surface workers' hours of real work, excluding breaks	
	Hours of attendance		Hours at face			
	Hrs.	*Min.*	*Hrs.*	*Min.*	*Hrs.*	*Min.*
Germany:						
Ruhr	8	0	0	0	10	0
Aachen	8	30	0	0	10	0
Upper Silesia	8	30	0	0	10	0
Lower Silesia	8	0	0	0	9	0
Saxony	8	0	6	15	9	0
Belgium	7	50	6	20	8	0
France	7	44	6	17	7	59
Great Britain	7	30	5	45	7	45
Netherlands	8	0	6	20	8	0
Poland:						
Silesia	8	0	6	16	8	0
Dombrowa	8	0	6	16	8	0
Saar	7	30	0	0	0	0
Czechoslovakia	7	25	6	55	7	45

It will be noted that the daily hours of attendance exceeded 8 in only two districts—Aachen and Upper Silesia in Germany, where they were 8½—the figures for the other countries or districts varying from 7 hours and 25 minutes to 8 hours. The hours at the face in the localities for which figures are given varied from 5¾ hours to 6 hours and 55 minutes. The time spent in walking underground to and from the work place, and in breaks, although reported to vary considerably from mine to mine, averaged about the same in the different countries and districts, running from 1 hour and 27 minutes to 1 hour and 45 minutes. Consequently, the hours at the face show differences in the several localities similar to those found in hours of attendance. The daily hours of work at the surface varied from 9 to 10 in the five districts of Germany for which figures were obtained but in the other countries they were 8 or less.

Since 1925 the hours of work have been somewhat reduced in Germany by various arbitration awards, while in Great Britain the coal mines act of 1926 has permitted increases in hours.

Wages

THE report states that the task of rendering the wage data comparable was complicated by the large number of different elements on which the calculation of average wages was based. In order to compare the average earnings per time unit they were converted into gold francs as a common unit of measure and the averages obtained were related to the highest average, that for Great Britain, which was taken as the base or 100. In addition the average earnings have been expressed in terms of retail prices of foodstuffs in order to calculate index numbers of comparative real earnings, also with Great Britain as the base. Thus, the average earnings expressed in terms of gold show the purchasing power of the earnings in the international market, while the average earnings expressed in terms of retail prices show the purchasing power of these earnings in the internal market and indicate the relative standard of living of mine workers in the different countries and districts.

The basis of the wage calculations was the total wages bill, comprising the aggregate sum of the miners' actual earnings. In addition to money wages miners often receive various kinds of allowances and benefits and in several countries a considerable portion of the wages consists of these additional emoluments. Therefore account was taken of every possible element of income which the workers received by reason of their employment in and about the mines. It is pointed out that a particularly controversial point is that relating to advantages which the workers receive from the various social insurance schemes. In view of the importance of this question, two different conceptions of the total wages bill were applied, the one excluding and the other including payments by employers toward social insurance. This item constitutes from 4 to 12 per cent of the total wages bill.

Table 2 gives for underground workers the index numbers of average earnings, including and excluding employers' contributions to social insurance, expressed in terms of gold francs and in terms of the purchasing power of the earnings covering a certain quantity of foodstuffs. The countries are arranged in descending order as determined by the index numbers of real earnings. Average hourly earnings are given as per hours of attendance. The report states that "the relative numbers relating to earnings per hour at face differ in fact but little from those found in the table."

TABLE 2.—RELATIVE LEVELS OF AVERAGE EARNINGS OF UNDERGROUND WORKERS IN EUROPEAN COAL MINES, EXPRESSED IN TERMS OF GOLD AND OF THEIR INTERNAL PURCHASING POWER, 1925

[Great Britain=100]

Country and district	Index numbers of average earnings			
	In gold		In purchasing power	
	Excluding employers' contributions	Including employers' contributions	Excluding employers' contributions	Including employers' contributions
	Average earnings per man-shift (day)			
Great Britain	100	100	100	100
Netherlands	75	80	84	89
Belgium	50	50	73	73
Czechoslovakia: Ostrava-Karvina	51		66	
France	49	50	65	66
Saar	52		63	
Germany: Ruhr	64	69	61	66
Czechoslovakia: Whole country	48	52		
Czechoslovakia: Kladno-Rakovnik	46		61	
Germany: Saxony	57			
Germany: Upper Silesia	49		53	
Poland	40	43	50	54

TABLE 2.—RELATIVE LEVELS OF AVERAGE EARNINGS OF UNDERGROUND WORKERS IN EUROPEAN COAL MINES, EXPRESSED IN TERMS OF GOLD AND OF THEIR INTERNAL PURCHASING POWER, 1925—Continued

Country and district	Index numbers of average earnings			
	In gold		In purchasing power	
	Excluding employers' contributions	Including employers' contributions	Excluding employers' contributions	Including employers' contributions
	Average earnings per hour of attendance underground			
Great Britain	100	100	100	100
Netherlands	74	78	82	87
Belgium	51	51	74	74
Czechoslovakia: Ostrava-Karvina	51		71	
Saar	51		68	
France	50	52	67	68
Czechoslovakia: Whole country	49	52		
Czechoslovakia: Kladno-Rakovnik	46		65	
Germany: Ruhr	60	64	60	64
Germany: Saxony	53			
Poland	38	41	49	53
Germany: Upper Silesia	43		46	
	Average earnings per year and worker			
Great Britain	100	100	100	100
Netherlands	89	94	99	105
Belgium [1]	57	57	82	82
France	58	59	77	78
Saar [1]	58		76	
Germany: Ruhr	70	75	69	75
Germany: Saxony	65			
Czechoslovakia: Ostrava-Karvina	50		69	
Czechoslovakia: Whole country	48	52		
Czechoslovakia: Kladno-Rakovnik	46		66	
Germany: Upper Silesia	55		59	
Poland	40	43	52	55

[1] Including all mine workers, both underground and surface.

The index numbers of real earnings, that is, those expressed in terms of purchasing power of money, vary less in the different localities than those expressed in terms of gold. Great Britain and the Netherlands had the highest average real wage levels and Poland and Upper Silesia the lowest, while those of Belgium, Czechoslovakia, France, the Ruhr district, and the Saar were approximately the same, although considerably lower than those of Great Britain and the Netherlands.

Table 3 shows the elements that comprise the earnings other than net money wages, excluding and including employers' contributions to social insurance.

TABLE 3.—PER CENT OF TOTAL ACTUAL EARNINGS FORMED BY ELEMENTS OTHER THAN MONEY WAGES

Country and district	Per cent of total earnings formed by—						
	Workmen's insurance contributions	Allowances in money	Free or cheap coal	Other allowances in kind	Payments for holidays	Employers' contributions	Total earnings other than money wages
	Excluding employers' contributions to social insurance						
Great Britain	2.0		3.0	1.1			6.1
Belgium	2.1	1.0	3.7	1.5			8.3
Netherlands	6.0	4.5	.7	.7	1.4		13.3
Germany:							
Ruhr	9.7	4.0	1.5		2.2		17.4
Saxony	9.3	1.7	3.7		2.7		17.4
Upper Silesia	10.9	3.2	3.1		2.1		19.3
France	4.6	3.8	2.7	10.2			21.3
Czechoslovakia	7.3	3.6	8.1	1.7	2.0		22.7
Saar	7.7	9.9	4.0	.1	1.8		23.0
Poland	8.2	7.4	6.5	5.0	2.9		30.0
	Including employers' contributions to social insurance						
Great Britain	1.9		2.9	1.1		4.0	9.9
Belgium	2.1	1.0	3.5	1.4		4.0	12.0
Netherlands	5.4	4.1	.7	.6	1.3	9.3	21.4
Germany:							
Ruhr	8.7	3.5	1.3		2.0	10.6	26.1
Saxony	8.2	1.5	3.3		2.4	11.5	26.9
France	4.3	3.5	2.6	9.6		6.2	26.2
Czechoslovakia	6.4	3.2	7.1	1.5	1.8	12.1	32.1
Poland	7.3	6.6	5.8	4.5	2.6	10.7	37.5

The report states that the high proportion of workmen's insurance contributions in Czechoslovakia, Germany, Poland, and the Saar, is due to the wide scope of compulsory and contributory social insurance in these countries and to the fact that the insurance schemes are in the charge of the workers to a great extent. The conspicuously high percentage of allowances in kind (other than coal) in France is explained by the housing facilities offered by the mine owners in northern France. On the other hand, it is noted that a low percentage for any item, particularly an allowance in kind, does not necessarily mean that the actual money value of the item is low as compared with the value of the same item in another country, since in countries where total actual earnings are comparatively low such allowances represent a higher proportion of the total, as their actual value is to some extent determined by the international market and therefore tends to be approximately equal in the different countries.

Output

TABLE 4 gives the relative level of average output of coal per man-shift, and of the average labor cost per ton of saleable coal (excluding and including the employers' contributions to social insurance).

TABLE 4.—RELATIVE LEVEL OF AVERAGE OUTPUT AND AVERAGE WAGES PER TON OF COAL IN EUROPEAN COAL MINES, 1925

[Great Britain=100]

Country and district	Index numbers of—		
	Average output per man-shift	Wages per ton of saleable coal	
		Excluding employers' contributions	Including employers' contributions
Great Britain	100	100	100
Belgium	48	99	100
Germany: Saxony	61	96	105
Netherlands	82	90	96
France	59	81	83
Saar	71	73	----
Germany: Ruhr	100	63	68
Czechoslovakia	88	55	61
Germany: Upper Silesia	126	39	----
Poland	101	38	41

Summary

THE information obtained on the three main points brought out in the inquiry, i. e., the comparative standard of living of coal-mine workers, as determined by their average earnings (expressed in terms of purchasing power), the comparative wage cost of a ton of coal (expressed in terms of gold), and the comparative productivity, as determined by the average output per man-shift (day), in the year 1925, is outlined in the report as follows:

1. Great Britain and the Netherlands, where the standard of living appears to be the highest in Europe and Continental Europe, respectively, show also a very high wage cost per ton of coal and a relatively high productivity, which, however, are exceeded or equaled in a few continental districts.

2. Belgium, France, the Saar territory, the Ruhr and Saxony districts of Germany, as well as Czechoslovakia, where the workers' standard of living may be assumed as being roughly equal, show marked differences in respect of the wage cost of production and the productivity. The wage cost is very high in the Free State of Saxony and Belgium (where it attains indeed its maximum level), and is relatively high also in France, but the productivity is considerably less than in Great Britain; in other districts the wage cost is considerably below the maximum level (in Czechoslovakia little more than half of the same), whereas the productivity (the Saar excepted) is equal or nearly equal to the European maximum.

3. Finally, in German Upper Silesia and Poland the standard of living is the lowest in Europe, and as the productivity of these regions (as determined by the average output per man-shift or day) is at the same time the highest in Europe, also the wage cost of coal is cheaper than elsewhere; it may be noted that the wage per ton is less than two-fifths, but the real earnings about one-half of the maximum level attained in Europe.

These circumstances seem to indicate that the standard of living of the mine workers, as determined by the purchasing power of their earnings, bears direct relation neither to the productivity of the coal fields in which they are employed, nor to the low cost of production of coal, as measured in terms of gold. They further show that the wage cost of production does not bear a direct relation to the productivity of the mines, nor to the standard of living of the workers. These three factors, the workers' standard of living, the productivity of the mines, and the labor cost of production, influence each other in a highly unequal degree in the different countries; but they are in turn related to other factors, such as the

geographical situation of the coal fields, the overhead costs of production, the efficiency of labor, the general standard of living acquired by the workers, which escape the analysis of a statistical inquiry.

The report contains a warning against the drawing of any sweeping conclusions as a result of the inquiry, since the comparisons made "are necessarily only approximations." It is pointed out that the inquiry refers to a single year, which was an exceptional one in several countries, and that "sensible changes in the labor conditions have taken place since 1925."

A Two-Shift System Without Night Work

A TWO-SHIFT system on a schedule of 88 hours per week and 4,500 per year has been in operation for six years in the machine shops of the Morgan Construction Co., Worcester, Mass., according to the Iron Age (New York) of August 30, 1928.

Each shift has a 44-hour week. The first works from 6.30 a. m. to 2.30 p. m., and the second from 2.30 p. m. to 11.42 p. m. A break of 24 minutes is allowed each shift for a meal. The first shift has a daily work schedule of 7 hours and 36 minutes for five days, with 6 hours on Saturday; the second shift works five days of 8 hours and 48 minutes each.

The younger men are said to prefer the second shift with its longer working-day but only five days per week, as it gives them a longer period off—from 11.42 Friday night to 2.30 Monday afternoon—while the older men usually prefer the first shift with its shorter working-day but with something to do every week day.

The arrangement is reported to be satisfactory to both the management and the 600 employees affected. It gives each man approximately half a day of daylight outside of the shop and Saturday afternoon and Sunday to himself. Moreover, the shorter hours do not materially affect his weekly wage, "which compares favorably with the average paid in similar lines of manufacturing, locally and the country over, where the hours of the men are somewhat longer."

The principal advantages from the company's standpoint are that "overhead costs are kept much below what they would be were the machinery operated only 48 to 54 hours per week. Investment in equipment is kept down, and machines yield a maximum return during the years when they are still modern; that is to say, before machines of more efficient design are available to supersede them." Another advantage to the company is said to be the overlapping period of supervision, as the foremen of the first shift stay half an hour after their men depart and the foremen of the second shift go on duty half an hour ahead of their men.

It is reported that studies conducted by this company demonstrated that in a machine shop the night shift, from midnight on, is the least productive and that better results are obtained by eliminating it.

Changes in Wages for Various Occupations in Norway, 1926 to 1927

A RECENT report, published by the Central Bureau of Statistics of Norway,[1] contains wage statistics for 1926 and 1927 in certain important industries.

During 1926 wage scales and working conditions covering 2-year periods had been established by collective agreements for many trades, with provisions for changing the wage rates in 1927 according to changes in cost of living. As a result wages were, in the beginning of 1927, reduced 6.7 per cent for the building trades, the furniture industry, printers, lithographers, bookbinders, and tailors, 8.6 per cent for the bakery and confectionery trades, and most of the transportation workers, and 9 per cent for the millers and brewery workers.

New collective agreements were also established through compulsory arbitration for the metal trades, the mining industry, the textile industry, and the boot and shoe workers, in all of which trades yearly agreements had expired without renewal and had resulted in extended suspension of work. The arbitration awards carried reductions of 15 per cent in wage rates, and approximately the same amount of reduction was made in most of the other large and important wage disputes settled in 1927 by compulsory arbitration.

A summary of wage changes from 1926 to 1927 shows that the general wage reductions by arbitration were 15 per cent, but that for a number of important trades, whose wage adjustment was subject to the cost-of-living basis, the reduction was smaller. On the whole, the movement was a continuation of the downward wage trend during the preceding year, when there was a general reduction in wages for handicrafts and industries of from 10 to 14 per cent, and even larger for a few important industrial groups.

Table 1, compiled from the report, shows the average hourly, daily, or weekly rate of wages for adult time-workers in selected trades in July, 1926 and 1927, according to reports from public employment exchanges, covering 38 cities. The amounts have been converted into United States currency, according to the average exchange rate for each period. As the value of Norwegian money had increased nearly 18 per cent during the interval, and the decrease in wage rates was smaller, the changes really constituted increases in wage rates when computed on a gold basis.

[1] Norway. Statistiske Centralbyrå. Lønninger, 1927. Oslo, 1928.

TABLE 1.—AVERAGE RATE OF WAGES FOR SELECTED TRADES IN 38 NORWEGIAN CITIES, JULY, 1926, AND JULY, 1927

[Conversions made on basis of average exchange rate of krone=21.93 cents in July, 1926; 25.84 cents in July, 1927]

Occupation and sex		Average wages			
		July, 1926		July, 1927	
		Kroner	U. S. currency	Kroner	U. S. currency
Males					
Carpenters and joiners	per hour	1.64	$0.36	1.52	$0.39
Masons (brick and stone)	do	1.77	.39	1.63	.42
Hod carriers	do	1.62	.36	1.48	.38
Painters	do	1.70	.37	1.57	.41
Cement molders	do	1.54	.34	1.44	.37
Bakers	per week	83.00	18.20	78.00	20.16
Shoemakers (hand)	do	68.00	14.91	58.00	14.99
Tailors	do	75.00	16.45	70.00	18.09
Teamsters	do	64.00	14.04	60.00	15.50
Chauffeurs	do	71.00	15.57	66.00	17.05
Females					
Laundry workers	do	40.00	8.77	36.00	9.30
Charwomen and washerwomen	per day	6.45	1.41	5.85	1.51

Table 2, also compiled from the report, shows the average earnings, including piece-rate earnings, in several important industrial branches, based on information furnished by the respective associations of employers. Earnings for the paper industry relate to the fourth quarter of the year in 1926 and the second half in 1927, while earnings for the other industries all relate to the third quarter in both 1926 and 1927.

TABLE 2.—AVERAGE EARNINGS IN SPECIFIED INDUSTRIES, 1926 AND 1927

[Conversions made on basis of average exchange rate of krone=21.93 cents in July, 1926; 25.84 cents in July, 1927]

Industry		Average wages			
		July, 1926		July, 1927	
		Kroner	U. S. currency	Kroner	U. S. currency
Paper:					
Cellulose manufacturing	per day or shift	12.40	$2.72	10.60	$2.74
Paper manufacturing	do	11.92	2.61	10.12	2.62
Wood-pulp grinding	do	12.24	2.68	10.29	2.66
Total		12.24	2.68	10.34	2.67
Lumber:					
Sawyers	do	13.75	3.02	11.03	2.85
Sawyers' helpers	do	11.42	2.50	10.17	2.63
Mill-yard workers	do	12.63	2.77	11.08	2.86
Total		12.10	2.65	10.27	2.65
Metal:					
Skilled workers	per hour	1.87	.41	1.51	.39
Laborers	do	1.57	.34	1.28	.33
Mining: Underground and surface workers	do	1.54	.34	1.35	.35

Wage Rates in Jamaica, 1928

THE wage rates given below are the prevailing rates paid in the principal industries in Jamaica and are included in a report from the American consul, Jose de Olivares, at Kingston, dated June 1, 1928.

Industry and occupation		Rate
Agricultural workers, unskilled	per day	$0. 50
Domestic servants	per week	2. 00– 4. 50
Manufacturing:		
Unskilled workers, female	do	2. 00– 3. 00
Unskilled workers, male	do	4. 50– 6. 00
Skilled mechanics, male	per hour	. 50– . 60
Skilled sugar millers, male	per week	7. 50–10. 00
Skilled factory workers, male	per day	1. 50– 3. 00
Construction:		
Unskilled workers	do	. 87– 1. 00
Skilled workers	do	2. 25– 3. 00
Dock laborers	do	1. 75
Coal loaders, male and female	per basket	. 02
Banana carriers	per 100 stems	. 43

HOUSING

Building Permits in Principal Cities of the United States, First Half of 1928

IN THE following report the Bureau of Labor Statistics presents its semiannual study of building permits issued during the first half of 1928 in the cities of the United States having a population of 100,000 or over according to the estimate of the Census Bureau.

Reports were received for the first half of 1927 from 80 cities. For the first half of 1928, however, questionnaires were sent to 5 additional cities which, according to the estimate of the Census Bureau, had reached a population of 100,000 during the past year. Data are, therefore, shown herein for 80 cities for the first half of 1927 and for 85 cities for the first half of 1928.

An increase of 1 per cent in expenditure for new buildings was shown in the first half of 1928 as compared with the first half of 1927 in the 80 cities from which reports were received for both periods. This is the first time since the first six months of 1925 that there has been an increase over the same period of the previous year in building expenditure.

The form sent out by the bureau asked for the number and estimated cost of buildings for which permits were issued during the first six months of 1928. Reports as issued by the cities cover only the incorporated area of the city. Large suburban developments are, therefore, not represented in this report. The costs as stated herein are estimated costs as stated by the prospective builder at the time of applying for his permit to build.

Table 1 shows the total number of new buildings and the estimated cost of each of the different kinds of new buildings for which permits were issued in the 85 cities for which schedules were received for the first half of 1928, the per cent that each kind forms of the total number, the per cent that the cost of each kind forms of the total cost, and the average cost per building.

TABLE 1.—NUMBER AND COST OF NEW BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 85 CITIES, JANUARY 1 TO JUNE 30, 1928, BY KIND OF BUILDING

Kind of building	Buildings for which permits were issued				
	Number	Per cent of total	Estimated cost		
			Amount	Per cent of total	Average per building
Residential buildings					
One-family dwellings	59,861	39.7	$291,080,646	20.5	$4,863
Two-family dwellings	9,190	6.1	71,586,825	5.1	7,790
One-family and two-family dwellings with stores	1,340	.9	14,057,773	1.0	10,491
Multi-family dwellings	6,068	4.0	429,009,191	30.3	70,700
Multi-family dwellings with stores	680	.5	41,436,804	2.9	60,936

TABLE 1.—NUMBER AND COST OF NEW BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 85 CITIES, JANUARY 1 TO JUNE 30, 1928, BY KIND OF BUILDING—Con.

Kind of building	Buildings for which permits were issued				
	Number	Per cent of total	Estimated cost		
			Amount	Per cent of total	Average per building
Residential buildings—Continued					
Hotels	117	0.1	$76,717,000	5.4	$655,701
Lodging houses	9	(1)	152,200	(1)	16,911
All other	112	.1	15,763,447	1.1	140,745
Total	77,377	51.3	939,803,886	66.3	12,146
Nonresidential buildings					
Amusement buildings	504	.3	32,885,048	2.3	65,248
Churches	337	.2	18,930,889	1.3	56,175
Factories and workshops	1,284	.9	55,958,789	3.9	43,582
Public garages	1,365	.9	27,443,246	1.9	20,105
Private garages	56,000	37.1	19,388,319	1.4	346
Service stations	1,641	1.1	5,172,024	.4	3,152
Institutions	86	.1	25,592,883	1.8	297,592
Office buildings	515	.3	112,567,168	7.9	218,577
Public buildings	82	.1	9,319,047	.7	113,647
Public works and utilities	150	.1	19,022,342	1.3	126,816
Schools and libraries	261	.2	45,688,910	3.2	175,053
Sheds	4,372	2.9	1,853,628	.1	424
Stables and barns	108	.1	161,967	(1)	1,500
Stores and warehouses	4,807	3.2	98,529,541	7.0	20,497
All other	1,978	1.3	4,436,149	.3	2,243
Total	73,490	48.7	476,949,950	33.7	6,490
Grand total	150,867	100.0	1,416,753,836	100.0	9,391

[1] Less than one-tenth of 1 per cent.

During the first six months of 1928 permits were issued in these 85 cities for 150,867 new buildings. Of this number 77,377, or 51.3 per cent of the total number, were residential buildings, while 73,490, or 48.7 per cent, were nonresidential buildings. One-family dwellings were the most numerous class of buildings for which permits were issued in these cities, comprising 39.7 per cent of the whole number of buildings. Private garages followed closely, accounting for 37.1 per cent of all buildings for which permits were issued in these 85 cities.

There was an estimated expenditure for new building in these cities of nearly $1,500,000,000. Of this amount 66.3 per cent was for the erection of residential buildings and 33.7 per cent for nonresidential buildings. Multi-family dwellings and multi-family dwellings with stores together accounted for nearly one-third of the total expenditure for all buildings in these 85 cities. According to permits issued in these cities, over 50 per cent more money was spent for the erection of apartment houses than for the erection of one-family dwellings. As the permits issued for the erection of apartment houses in these larger cities account for the expenditure of practically as much money as for all nonresidential buildings together, the importance of these multi-family dwellings in our economic life is readily understandable. Not only are they providing housing accommodations for an increasing percentage of families housed in new dwellings but

they are giving work to a large percentage of the men employed in the building trades.

Office buildings and stores and warehouses accounted for the greatest expenditures of any class of nonresidential buildings, 7.9 per cent of the total estimated expenditure being for office buildings and 7 per cent for stores and warehouses.

Estimated expenditures in these 85 cities for public buildings and public works accounted for roughly $99,623,182, or 7.0 per cent of the total expenditure. This is made up of the expenditures for public buildings, public works and utilities, institutions, and schools and libraries. All operations classed under the heading "Public buildings" are built from public funds, as well as most of those under the headings of "Public works and utilities," "Institutions," and "Schools and libraries."

The average cost of all buildings for which permits were issued in these 85 cities was $9,391. Residential buildings averaged $12,146 per building and nonresidential buildings $6,490 per building. Excluding private garages, which averaged only $346 per building, the average cost of the remaining nonresidential buildings was $26,161.

Hotels cost more per building than any other kind of building, either residential or nonresidential. Their average cost was $655,701. The average cost of apartment houses was $70,700 and of apartment houses with stores, $60,936. The average cost of one-family dwellings was $4,863, as compared with an average cost of $4,903 for the 80 cities which reported for the first half of 1927.

In the nonresidential group "institutions," which comprise hospitals, asylums, sanitariums, homes, etc., were the most costly type of building. Their cost per building was $297,592. Other nonresidential buildings accounting for a large expenditure per building were office buildings with an average cost per building of $218,577 and schools and libraries with an average cost of $175,053.

Families Provided For

TABLE 2 shows the number and per cent of families provided for by each of the different kinds of dwellings for which permits were issued in 80 identical cities in the first half of 1927 and the first half of 1928.

TABLE 2.—NUMBER AND PER CENT OF FAMILIES TO BE HOUSED IN NEW DWELLINGS FOR WHICH PERMITS WERE ISSUED IN 80 IDENTICAL CITIES DURING THE FIRST HALF OF 1927 AND THE FIRST HALF OF 1928, BY KIND OF DWELLING

Kind of dwelling	Number of dwellings for which permits were issued		Families provided for			
			Number		Per cent	
	First half of 1927	First half of 1928	First half of 1927	First half of 1928	First half of 1927	First half of 1928
One-family dwellings	65,188	57,915	65,188	57,915	34.7	30.2
Two-family dwellings	11,618	8,992	23,236	17,984	12.4	9.4
One-family and two-family dwellings with stores	1,501	1,320	2,474	2,256	1.3	1.2
Multi-family dwellings	6,515	5,927	89,016	105,002	47.4	54.7
Multi-family dwellings with stores	707	671	8,055	8,664	4.3	4.5
Total	85,529	74,825	187,969	191,821	100.0	100.0

Permits issued during the first six months of 1928 in the 80 cities for which reports were received for both the first half of 1927 and the first half of 1928 indicated that dwelling accommodations would be provided in new buildings for 191,821 families, an increase of 2 per cent over the 187,969 families accommodated in the corresponding period of 1927.

In the first half of 1927 one-family dwellings accounted for 34.7 per cent of the new dwelling units provided. During the first half of 1928, however, single-family dwellings accounted for only 30.2 per cent of the family units provided. The percentage of families housed in two-family dwellings decreased from 12.4 per cent in the first half of 1927 to 9.4 per cent in the first half of 1928. During the first six months of 1927, permits were issued for 6,515 apartment buildings which were planned to house an aggregate of 89,016 families or 13.7 families per building. In the like period of 1928 permits were issued in these 80 cities for 5,927 apartment houses with accommodations for 105,002 families. These apartment houses housed 17.7 families per building. This class of building accommodated 54.7 per cent of all the families provided with homes in new buildings in the first half of 1928 as compared with 47.4 per cent during the first half of 1927. There was very little difference in the percentage of families housed in one-family and two-family dwellings with stores combined or in multi-family dwellings with stores combined in the two periods under comparison.

Table 3 shows the number and per cent of families provided for in the different kinds of dwellings in the 65 identical cities for which reports were received for the first six months of each of the years 1922 to 1928. For convenience one-family dwellings and two-family dwellings with stores are grouped with two-family dwellings, and multi-family dwellings with stores combined are grouped with multi-family dwellings.

TABLE 3.—NUMBER AND PER CENT OF FAMILIES PROVIDED FOR IN THE DIFFERENT KINDS OF DWELLINGS IN 65 IDENTICAL CITIES IN THE FIRST HALF OF 1922 TO 1928, INCLUSIVE

Period	Number of families provided for in—				Per cent of families provided for in—		
	1-family dwellings	2-family dwellings [1]	Multi-family dwellings [2]	All classes of dwellings	1-family dwellings	2-family dwellings [1]	Multi-family dwellings [2]
First half of—							
1922	63,892	32,321	51,006	147,249	43.4	22.0	34.6
1923	77,875	39,314	77,826	195,015	39.9	20.2	39.9
1924	82,514	50,904	69,619	203,037	40.6	25.1	34.3
1925	87,783	39,320	80,291	207,394	42.3	19.0	38.7
1926	71,818	26,727	100,201	198,746	36.1	13.4	50.4
1927	57,899	24,204	95,448	177,551	32.6	13.6	53.8
1928	50,724	19,261	111,268	181,252	28.0	10.6	61.2

[1] Includes 1-family dwellings and 2-family dwellings with stores.
[2] Includes multi-family dwellings with stores.

Reports have been received from 65 cities for the first half of each year since the first half of 1922. In these 65 cities 181,252 families were provided with homes in new buildings during the first half of

1928, an increase of 23.1 per cent in the number of families accommodated as compared with the same period of 1922. In the first half of 1925 new dwelling units were provided for 207,394 families. This was the greatest number arranged for in the like period of any of the seven years under discussion. There was a decrease in the first half of 1926 and of 1927 as compared with the same period of the former year. The period January to June, 1928, however, shows an increase of 2.1 per cent over the corresponding months of 1927.

In the first half of 1922 1-family dwellings were the leading type of dwellings built. They provided for 43.4 per cent of the total number of families accommodated, compared with 34.6 per cent in apartment houses and 22 per cent in 2-family dwellings. By the first half of 1926, however, apartment houses had become the most popular class of dwellings in the larger cities of the country. In the first half of that year 50.4 per cent of the family units built were in multi-family dwellings and only 36.1 per cent in the single-family dwellings.

During the first half of 1927 the preponderance of families provided for in apartment houses over those in 1-family dwellings was further accentuated, and during the first half of 1928 the percentage of families housed in multi-family dwellings had risen to 61.2, while those provided for in 1-family dwellings had decreased to 28 per cent. The 2-family dwellings provided only 10.6 per cent of the total number of family units in new buildings during the first six months of 1928.

Building Trend

TABLE 4 shows the number and cost of the different kinds of buildings for which permits were issued in the 80 identical cities from which reports were received for the first half of 1927 and of 1928, and the percentage of increase or decrease in the number and in the cost in the first half of 1928 as compared with the first half of 1927.

TABLE 4.—NUMBER AND COST OF NEW BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 80 CITIES DURING THE FIRST HALF OF 1927 AND 1928, BY KIND OF BUILDING

Kind of building	New buildings for which permits were issued during first half of—				Per cent of change, 1928, as compared with 1927	
	1927		1928			
	Number	Cost	Number	Cost	Number	Cost
Residential buildings						
1-family dwellings	65,188	$319,616,929	57,915	$284,104,015	−11.2	−11.1
2-family dwellings	11,618	98,141,450	8,992	70,666,840	−22.6	−28.0
1-family and 2-family dwellings with stores	1,501	16,207,139	1,320	13,936,723	−12.1	−14.0
Multi-family dwellings	6,515	355,957,616	5,927	426,416,851	−9.0	+19.8
Multi-family dwellings with stores	707	39,384,233	671	41,217,154	−5.1	+4.7
Hotels	88	28,178,044	113	76,392,000	+28.4	+171.1
Lodging houses	62	807,741	9	152,200	−85.5	−81.2
All other	52	13,307,372	88	15,131,507	+69.2	+13.7
Total	85,731	871,600,524	75,035	928,017,290	−12.5	+6.5

TABLE 4.—NUMBER AND COST OF NEW BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 80 CITIES DURING THE FIRST HALF OF 1927 AND 1928, BY KIND OF BUILDING—Continued

Kind of building	New buildings for which permits were issued during first half of—				Per cent of change, 1928, as compared with 1927	
	1927		1928			
	Number	Cost	Number	Cost	Number	Cost
Nonresidential buildings						
Amusement buildings	409	$60,474,640	481	$32,696,683	+17.6	−45.9
Churches	339	18,637,435	316	18,480,989	−6.8	−.8
Factories and workshops	1,489	55,251,240	1,258	55,808,039	−15.5	+1.0
Public garages	1,580	33,539,770	1,319	27,173,206	−16.5	−19.0
Private garages	62,827	22,662,602	54,553	18,945,102	−13.2	−16.4
Service stations	1,663	4,563,252	1,560	4,969,476	−6.2	+8.9
Institutions	100	18,405,111	85	25,567,883	−15.0	+38.9
Office buildings	579	128,472,870	504	112,059,867	−13.0	−12.8
Public buildings	124	20,003,638	74	9,149,047	−40.3	−54.3
Public works and utilities	157	12,481,434	144	18,916,342	−8.3	+51.6
Schools and libraries	244	55,616,179	257	45,475,506	+5.3	−18.2
Sheds	5,084	1,903,121	4,130	1,770,761	−18.8	−7.0
Stables and barns	79	265,490	107	154,967	+35.4	−41.6
Stores and warehouses	4,410	79,353,886	4,546	96,523,651	+3.1	+21.6
All other	1,695	3,004,252	1,837	4,384,457	+8.4	+45.9
Total	80,779	514,634,920	71,171	472,075,976	−11.9	−8.3
Grand total	166,510	1,386,235,444	146,206	1,400,093,266	−12.2	+1.0

During the first half of 1928 there was an increase of 1 per cent in the estimated cost of new buildings for which permits were issued, as compared with the first half of 1927 in the 80 cities from which reports were received for both periods. There was a decrease of 12.2 per cent in the number of new buildings in the same time.

Residential buildings increased 6.5 per cent in cost during the first half of 1928 over the first half of 1927 but decreased 12.5 per cent in number. All classes of residential buildings decreased in number except hotels and "All other" residential. The latter class includes clubs, dormitories, convents, and association buildings with bedrooms. The greatest increase in expenditure was shown by hotels, which increased 171.1 per cent. Apartment houses and apartment houses with stores also showed an increase in the amount shown.

Nonresidential buildings decreased both in number and cost. The decrease in number was 11.9 per cent and in expenditure was 8.3 per cent. Among the nonresidential buildings churches, public and private garages, office buildings, public buildings, and sheds showed a decrease in both number and cost in the first half of 1928 compared with the similar period of 1927. Stores and warehouses and "All other" nonresidential increased in both number and cost. Anusement buildings, schools and libraries, and stables and barns showed an increase in number but a decrease in amounts expended, while factories, service stations, institutions, and public works and utilities decreased in number but increased in cost.

Table 5 shows the total number and estimated cost of all buildings for which permits were issued in the 65 cities from which reports were received for the first half of each of the years 1922 to 1928, inclusive.

TABLE 5.—NUMBER AND ESTIMATED COST OF ALL BUILDINGS FOR WHICH PERMITS WERE ISSUED IN 65 IDENTICAL CITIES IN THE FIRST SIX MONTHS OF EACH OF THE YEARS 1922 TO 1928, INCLUSIVE

Period	Estimated cost		Number of buildings	
	Cost	Index number	Number	Index number
First half of—				
1922	$1,062,464,771	100.0	243,479	100.0
1923	1,418,779,382	133.5	283,289	116.4
1924	1,518,088,421	142.9	299,769	123.1
1925	1,620,413,012	152.5	289,014	118.7
1926	1,539,207,242	144.9	254,564	104.6
1927	1,443,232,520	135.8	237,853	97.7
1928	1,462,560,722	137.7	216,509	88.9

Permits were issued in these 65 cities for the erection or repair of 216,509 buildings during the first half of 1928, which was only 88.9 per cent of the number in the first half of 1922. The high point in the number of buildings was reached in 1924, when the index number stood at 123.1, with the 1922 figures equaling 100 per cent. There has been a steady decline in the number of building operations since that year. The estimated expenditure though increased each year until 1925, when a high point of 152.5 was reached. There was then a decline for the two periods in 1926 and 1927. The first half of 1928, however, showed an increase in estimated cost over the same half of 1927. During the first six months of 1928 the expenditure for all building operations as shown by permits issued in the 65 cities was $1,462,560,722, which was 37.7 per cent above the expenditure for the first six months of 1922, but was 10 per cent lower than the expenditure as shown by permits issued during the first half of 1925.

Per Capita Expenditure for Buildings

TABLE 6 shows the per capita expenditure for new buildings, new housekeeping dwellings, and for all buildings in the 78 cities in which either the population was estimated by the Census Bureau for 1928 or a State census was made in 1925.

TABLE 6.—PER CAPITA EXPENDITURE FOR NEW BUILDINGS, NEW HOUSEKEEPING DWELLINGS, AND FOR ADDITIONS AND REPAIRS TO OLD BUILDINGS IN 78 CITIES IN THE FIRST 6 MONTHS OF 1928

City and State	Estimated population July 1, 1928	Per capita expenditure for—			Rank in per capita expenditure for all buildings	Per capita expenditure for new housekeeping dwellings
		New buildings	Repairs, additions, and alterations	All buildings		
Albany, N. Y.	120,400	$62.63	$11.99	$74.62	3	$32.22
Atlanta, Ga.	255,100	43.20	5.24	48.43	9	18.57
Baltimore, Md.	830,400	16.45	4.38	20.83	55	9.59
Birmingham, Ala.	222,400	36.34	1.92	38.26	20	19.65
Boston, Mass.	799,200	29.48	5.15	34.62	23	17.97
Buffalo, N. Y.	555,800	20.79	1.13	21.92	50	8.79
Cambridge, Mass.	125,800	40.70	3.04	43.74	13	21.60
Camden, N. J.	135,400	28.29	1.70	30.00	35	5.19
Canton, Ohio	116,800	16.81	2.85	19.66	57	12.57
Chicago, Ill.	3,155,600	57.08	1.44	58.52	6	33.85
Cincinnati, Ohio	413,700	34.22	6.10	40.31	16	28.57

TABLE 6.—PER CAPITA EXPENDITURE FOR NEW BUILDINGS, NEW HOUSEKEEPING DWELLINGS, AND FOR ADDITIONS AND REPAIRS TO OLD BUILDINGS IN 78 CITIES IN THE FIRST 6 MONTHS OF 1928—Continued

City and State	Estimated population July 1, 1928	Per capita expenditure for—			Rank in per capita expenditure for all buildings	Per capita expenditure for new housekeeping dwellings
		New buildings	Repairs, additions, and alterations	All buildings		
Cleveland, Ohio	1,010,300	$22.62	$4.67	$27.29	38	$9.60
Columbus, Ohio	299,000	29.80	2.58	32.38	27	25.37
Dallas, Tex	217,800	14.81	3.78	18.59	61	8.46
Dayton, Ohio	184,500	34.13	3.72	37.85	21	10.21
Denver, Colo	294,200	27.78	2.75	30.53	33	17.31
Des Moines, Iowa	151,900	17.37	1.28	18.65	60	4.95
Detroit, Mich	1,378,900	44.15	3.11	47.27	10	27.71
Duluth, Minn	116,800	12.16	3.55	15.71	66	4.24
El Paso, Tex	117,800	6.51	1.67	8.18	73	3.00
Fall River, Mass	134.300	5.15	.97	6.12	75	1.81
Flint, Mich	148,800	41.47	3.61	45.08	11	31.49
Fort Wayne, Ind	105,300	17.47	3.58	21.04	54	10.52
Fort Worth, Tex	170,600	50.83	3.85	54.67	8	33.30
Grand Rapids, Mich	164,200	20.37	6.13	26.49	39	12.18
Hartford, Conn	172,300	28.60	5.90	34.51	24	19.18
Indianapolis, Ind	382,100	25.86	3.17	29.03	36	14.39
Jacksonville, Fla	140,700	30.16	2.86	33.02	26	23.42
Jersey City, N. J	324,700	17.34	1.47	18.80	59	11.32
Kansas City, Kans	118,300	7.77	.45	8.21	72	2.65
Kansas City, Mo	391,000	20.38	1.12	21.49	52	11.67
Knoxville, Tenn	105,400	30.05	1.70	31.75	30	13.03
Long Beach, Calif	110,700	58.68	3.43	62.11	4	41.87
Louisville, Ky	329,400	23.82	3.55	27.37	37	15.16
Lowell, Mass	[1] 110,296	2.23	1.48	3.71	77	.72
Lynn, Mass	105,500	14.02	5.60	19.63	58	9.60
Memphis, Tenn	190,200	34.07	5.83	39.90	18	18.17
Miami, Fla	156,700	5.84	2.19	8.03	74	2.67
Milwaukee, Wis	544,200	21.23	3.42	24.66	43	16.11
Minneapolis, Minn	455,900	18.43	3.87	22.30	47	9.83
Nashville, Tenn	139,600	20.23	1.91	22.14	48	9.21
Newark, N. J	473,600	32.03	7.34	39.37	19	22.99
New Bedford, Mass	[1] 119,539	3.05	1.71	4.76	76	1.58
New Haven, Conn	187,900	18.55	2.75	21.30	53	6.63
New Orleans, La	429,400	9.24	4.35	13.59	70	6.83
New York, N. Y	6,017,500	86.11	6.54	92.66	2	52.21
Norfolk, Va	184,200	12.63	1.15	13.77	69	7.99
Oakland, Calif	274,100	38.14	3.59	41.73	15	14.00
Omaha, Nebr	222,800	10.68	1.45	12.14	71	5.03
Paterson, N. J	144,900	19.24	2.53	21.77	51	7.97
Philadelphia, Pa	2,064,200	27.12	3.49	30.62	32	15.24
Pittsburgh, Pa	673,800	33.56	3.70	37.25	22	9.28
Providence, R. I	286,300	25.76	5.49	31.25	31	14.93
Reading, Pa	115,400	11.98	3.81	15.79	65	7.05
Richmond, Va	194,400	19.26	3.13	22.39	46	11.69
Rochester, N. Y	328,200	27.99	2.43	30.41	34	13.99
St. Louis, Mo	848,100	22.09	3.34	25.42	40	12.99
Salt Lake City, Utah	138,000	13.48	1.88	15.35	67	10.10
San Antonio, Tex	218,100	40.83	3.71	44.54	12	23.67
San Diego, Calif	119,700	53.42	3.79	57.21	7	33.44
San Francisco, Calif	585,300	28.84	3.38	32.22	28	20.04
Scranton, Pa	144,700	11.04	3.57	14.61	68	4.82
Seattle, Wash	383,200	54.74	6.30	61.04	5	27.81
Somerville, Mass	102,700	2.87	.13	3.00	78	2.10
Spokane, Wash	109,100	20.31	5.02	25.33	41	9.74
Springfield, Mass	149,800	21.91	3.17	25.08	42	12.19
Syracuse, N. Y	199,300	30.15	3.20	33.35	25	22.80
Tacoma, Wash	110,500	20.22	3.37	23.59	44	13.34
Tampa, Fla	113,400	14.65	2.56	17.22	63	8.81
Toledo, Ohio	313,200	26.87	5.31	32.18	29	11.25
Trenton, N. J	139,000	14.08	3.16	17.24	62	4.30
Tulsa, Okla	170,500	38.60	1.65	40.25	17	22.61
Utica, N. Y	104,200	20.65	1.48	22.12	49	12.01
Washington, D. C	552,000	40.43	2.57	43.00	14	25.46
Wilmington, Del	128,500	15.57	4.44	20.01	56	8.70
Worcester, Mass	197,600	13.73	3.17	16.90	64	7.17
Yonkers, N. Y	121,300	178.89	4.45	183.34	1	156.89
Youngstown, Ohio	174,200	21.32	1.95	23.27	45	17.27
Total	[2] 33,570,795	[2] 42.20	[2] 4.00	[2] 46.20	----------	[2] 25.24

[1] State census, 1925.

[2] Including 7 cities not shown in distribution.

Of the 85 cities in this country which have a population of 100,000 or over the Census Bureau estimated the population for 76 as of July 1, 1928. The population for two other cities was obtained by using the State census figures for 1925. The Census Bureau did not estimate the population for the remaining 7 cities because of abnormal conditions. The 7 cities are not shown separately in this table but are included in the total. The 1920 census figures are used in their case.

The per capita expenditure for all buildings in the 85 cities having a population of 100,000 or over was $46.20, of which $42.20 was for new buildings and $4 for repairs. Of the amount spent for new buildings $25.24 was for housekeeping dwellings.

The largest per capita expenditure was in Yonkers, N. Y., where $183.34 was spent per person. New York City was second with a per capita expenditure of $92.66, followed in order by Albany, N. Y., Long Beach, Calif., and Seattle, Wash.

Housing in Relation to Population

TABLE 7 gives detailed information concerning building operations in 80 cities during the first half of 1927 and 85 cities during the first half of 1928 as shown by permits issued in these cities. Part 1 gives for each city the number and cost of each kind of dwelling, the number of families provided for, and the ratio of families provided for to each 10,000 of population. The ratio of families provided for is based both on the 1920 census and on the population as estimated by the Census Bureau for the specified year.

The 80 cities reporting for the first half of 1927 provided for 187,969 families, which was at the rate of 66 families to each 10,000 of population according to the 1920 census, or 58.2 families to each 10,000 of population according to the population as of July 1, 1927. During the first six months of 1928 in the 85 cities 195,206 families were housed in new buildings. This was at the rate of 67.8 families to each 10,000 of population according to the 1920 census, or 58.1 families according to the 1928 estimate of population.

The following cities were the five leading builders of homes during the first half of 1927 and the first half of 1928. The ratio shown is based on the population as estimated by the Census Bureau for July 1, 1928:

1927		1928	
Yonkers	172.4	Yonkers	230.6
San Diego	132.8	Long Beach	150.0
Flint	121.3	New York	113.0
Fort Worth	110.7	San Diego	98.0
New York	99.2	Seattle	86.6

Part 2 shows the number and cost of nonresidential buildings for each city reporting.

Part 3 shows the number and cost of alterations and repairs to old buildings, the number and cost of all buildings, the number and cost of installation permits, and the rank in cost of construction.

The 80 cities scheduled for the first half of 1927 reported that permits were issued for 263,689 buildings of all kinds at an estimated cost of $1,524,389,694, while the 85 cities reporting for the first six months of 1928 stated that permits were issued for 248,731 buildings,

the estimated cost of these being $1,551,120,307. Permits were issued during the former period for 97,179 repairs to old buildings to cost $138,154,250. The cost of the 97,864 repairs made during the latter period was $134,366,471. Information concerning installation permits issued was not obtained from all cities scheduled. Those reporting on this class of work during the first six months of 1927 issued 36,645 such permits at an estimated cost of $18,485,848 compared with 35,099 costing $19,636,882 during the similar period of 1928.

The following were the cities leading in expenditure for all building:

	1927	1928
New York	$490, 119, 588	$557, 561, 891
Chicago	210, 210, 475	184, 650, 200
Detroit	78, 742, 327	65, 175, 361
Philadelphia	61, 683, 600	63, 195, 840
Los Angeles	58, 192, 977	52, 002, 570

Among these five leading cities New York and Philadelphia showed an increase in the first half of 1928 over the first half of 1927, while the other three cities showed a decrease.

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS

PART 1.—NEW RESIDENTIAL BUILDINGS

City and State	First half of each year	Housekeeping dwellings														
		One-family dwellings			Two-family dwellings			One-family and two-family dwellings with stores			Multi-family dwellings			Multi-family dwellings with stores		
		Number	Cost	Families	Number	Cost	Families	Number	Cost	Families	Number	Cost	Families	Number	Cost	Families
Akron, Ohio	1927	1,229	$6,158,590	1,229							24	$778,500	212			
	1928	1,158	5,820,238	1,158	29	$241,200	58				30	402,900	145			
Albany, N. Y	1927	140	2,075,500	140	56	1,483,500	112	1	$9,000	1	1	16,000	4	2	$48,000	12
	1928	142	2,149,400	142	47	1,160,000	94				6	570,000	85			
Atlanta, Ga	1927	664	2,425,560	664	165	413,300	330	9	15,450	11	43	655,150	341			
	1928	747	3,149,700	747	123	522,249	246	3	4,150	3	68	1,057,950	481	1	2,500	3
Baltimore, Md	1927	2,115	8,338,000	2,115				5	26,000	6	8	520,000	103			
	1928	1,707	6,829,000	1,707							7	1,135,000	276			
Birmingham, Ala	1927	1,324	4,265,509	1,324	11	61,750	22	7	39,125	8	43	1,595,625	444	4	90,625	27
	1928	1,083	3,252,614	1,083				7	28,900	7	61	1,089,731	534			
Boston, Mass	1927	265	1,637,000	265	403	3,678,503	806	2	42,000	4	197	4,338,800	1,190	50	1,069,500	260
	1928	320	1,874,000	320	582	4,904,400	1,164				324	7,581,700	2,198			
Bridgeport, Conn	1927	90	555,500	90	42	323,750	84				33	316,250	110			
	1928	88	519,200	88	33	276,100	66				12	191,600	36	4	205,000	52
Buffalo, N. Y	1927	666	2,654,450	666	262	1,310,150	524	53	558,100	83	19	2,136,000	512	15	185,400	52
	1928	401	1,821,425	401	326	1,408,050	652	21	166,500	39	24	1,213,000	393	23	274,500	95
Cambridge, Mass	1927	29	331,900	29	56	516,500	112				32	1,272,500	282			
	1928	17	234,500	17	82	559,300	164				12	1,924,000	513			
Camden, N. J	1927	246	968,050	246				14	77,300	19	3	180,000	50			
	1928	191	668,750	191				5	33,500	10						
Canton, Ohio	1927	238	943,450	238	6	48,050	12	2	10,000	3	3	140,000	40			
	1928	211	1,188,250	211	2	15,300	4				1	15,000	4	1	250,000	24
Chicago, Ill	1927	3,325	21,413,000	3,325	1,257	14,810,700	2,514	151	2,426,600	200	1,173	79,782,900	15,686	119	13,141,200	2,004
	1928	2,396	15,323,050	2,396	618	6,604,400	1,236	110	1,663,200	148	893	72,403,200	14,158	137	10,812,500	1,947
Cincinnati, Ohio	1927	848	5,987,883	848	173	1,746,750	346				25	2,016,500	529			
	1928	980	7,683,635	980	103	1,046,150	206				46	3,089,000	801			
Cleveland, Ohio	1927	859	4,638,600	859	308	2,946,000	616	8	122,000	11	28	1,470,500	431	6	252,000	43
	1928	807	4,815,600	807	199	1,961,500	398	37	224,000	66	40	2,489,000	663	7	210,000	32
Columbus, Ohio	1927	703	3,504,200	703	146	1,179,300	292	3	35,000	6	30	1,039,500	180	15	653,500	115
	1928	964	4,874,100	964	98	801,200	196	3	18,500	3	52	1,360,000	384	15	531,000	100
Dallas, Tex	1927	368	900,696	368	77	299,850	154				13	166,500	52			
	1928	411	1,097,895	411	86	496,550	172				12	247,250	82			
Dayton, Ohio	1927	321	1,513,420	321	162	436,487	324				20	514,000	114	4	184,600	25
	1928	183	815,812	183	36	212,600	72				25	787,500	274	2	68,000	12
Denver, Colo	1927	714	3,397,300	714	12	91,000	24				7	263,000	150			
	1928	683	3,496,500	683	17	127,500	34				34	1,469,000	453			

Des Moines, Iowa	1927	166	747,290	166	3	23,400	6				2	29,000	12			
	1928	155	654,678	155	1	9,500	2				2	88,000	63			
Detroit, Mich	1927	3,087	16,288,857	3,087	1,195	8,665,481	2,390	15	123,790	22	306	10,685,362	3,325	75	2,148,162	412
	1928	3,526	18,656,701	3,526	1,354	9,283,267	2,708	18	243,800	25	220	8,803,020	2,774	42	1,221,095	224
Duluth, Minn	1927	169	811,614	169	1	6,800	2									
	1928	96	467,750	96	3	23,000	6	1	5,000	1						
El Paso, Tex	1927	22	117,815	22							7	33,350	21	1	9,500	4
	1928	85	309,192	85	1	6,000	2				5	38,100	23			
Fall River, Mass	1927	88	477,805	88	16	115,950	32	3	40,000	4	9	130,184	37			
	1928	41	162,500	41	4	35,100	8				3	34,000	9	1	11,500	3
Flint, Mich	1927	1,798	6,000,704	1,798	30	190,042	60	7	53,457	13	12	144,241	53	1	30,000	6
	1928	915	3,993,459	915	78	468,962	156	10	56,940	12	4	123,919	75	3	43,000	10
Fort Wayne, Ind	1928	211	1,105,097	211				1	3,000	1						
Fort Worth, Tex	1927	962	5,277,219	962	291	490,000	582	19	201,415	27	36	335,805	119	34	304,100	121
	1928	1,074	4,702,190	1,074	24	144,000	48	9	55,000	15	36	708,415	289	14	72,160	35
Grand Rapids, Mich	1927	595	2,410,750	595	8	51,000	16				1	6,000	4			
	1928	462	1,889,895	462	18	110,000	36									
Hartford, Conn	1927	63	584,194	63	69	934,649	138	2	16,000	4	53	1,289,771	347	11	542,000	127
	1928	55	761,917	55	41	411,700	82				54	1,799,400	804	7	332,500	109
Houston, Tex	1927	1,565	4,644,013	1,565	220	1,672,000	440	11	151,000	20	103	1,726,350	515			
	1928	1,580	6,393,230	1,580	278	2,527,500	556	15	174,000	30	72	1,203,550	427	5	44,500	15
Indianapolis, Ind	1927	820	3,658,004	820	100	552,845	200				18	847,600	208			
	1928	719	3,378,885	719	89	426,350	178				18	1,555,000	489	3	139,300	28
Jacksonville, Fla	1928	622	2,188,000	622	79	307,100	158	15	100,700	21	37	679,150	190	1	20,000	11
Jersey City, N. J	1927	6	44,500	6	73	578,700	146	14	147,500	22	30	2,154,000	668	2	125,000	24
	1928	5	32,500	5	54	479,500	108	7	103,000	13	31	2,629,500	724	4	430,000	83
Kansas City, Kans	1927	217	425,200	217												
	1928	153	291,930	153							1	22,000	12			
Kansas City, Mo	1927	643	2,842,400	643	16	122,500	32	2	13,000	4	71	2,564,800	1,448	2	115,000	60
	1928	507	2,368,700	507	22	203,000	44				23	1,979,500	631	1	10,000	3
Knoxville, Tenn	1928	383	1,267,524	383	18	102,600	36				1	3,600	3			
Long Beach, Calif	1928	645	2,032,835	645	101	510,285	202	4	17,350	5	103	1,909,590	785	7	164,650	24
Los Angeles, Calif	1927	4,224	16,451,840	4,224	485	3,724,148	970				496	11,661,850	5,443			
	1928	3,657	14,067,810	3,657	512	3,677,329	1,024				614	15,369,769	7,049			
Louisville, Ky	1927	601	3,930,050	601	37	118,000	74	4	51,300	7	21	641,400	90	9	358,800	61
	1928	499	2,631,050	499	28	200,400	56	9	61,300	15	60	1,908,100	211	3	192,100	42
Lowell, Mass	1927	37	155,900	37	3	17,800	6									
	1928	21	74,350	21	1	5,000	2									
Lynn, Mass	1927	55	306,300	55	31	270,400	62				12	325,500	113			
	1928	61	314,350	61	33	265,100	66				10	433,750	144			
Memphis, Tenn	1927	477	1,992,200	477	113	318,500	226	19	50,700	22	64	1,117,900	407			
	1928	455	2,047,500	455	78	366,250	156				36	1,042,600	354			
Miami, Fla	1928	85	383,175	85										1	35,000	3
Milwaukee, Wis	1927	765	4,261,575	765	281	2,369,760	562	38	547,800	60	45	1,719,000	636	26	738,000	130
	1928	535	3,260,170	535	259	2,071,300	518	14	179,500	20	70	2,535,237	1,012	26	719,500	178
Minneapolis, Minn	1927	752	3,390,440	752	67	530,700	134				35	909,080	343			
	1928	647	2,707,230	647	72	489,750	144				43	1,284,800	469			
Nashville, Tenn	1927	276	800,350	276	3	31,000	6				6	202,000	80			
	1928	301	648,505	301	8	16,800	16				19	600,500	124	1	20,000	4
Newark, N. J	1927	105	1,316,400	105	247	2,898,050	494	11	188,500	14	150	9,131,900	1,931	3	382,000	63
	1928	30	295,223	30	125	1,468,070	250	20	293,200	38	131	8,056,080	1,624	14	775,000	134
New Bedford, Mass	1927	48	298,700	48	5	43,000	10							1	24,000	3
	1928	19	160,000	19	3	28,300	6									

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 1.—NEW RESIDENTIAL BUILDINGS—Continued

City and State	First half of each year	Housekeeping dwellings														
		One-family dwellings			Two-family dwellings			One-family and two-family dwellings with stores			Multi-family dwellings			Multi-family dwellings with stores		
		Number	Cost	Families	Number	Cost	Families	Number	Cost	Families	Number	Cost	Families	Number	Cost	Families
New Haven, Conn	1927	60	$580,000	60	9	$75,000	18				20	$455,000	229			
	1928	61	468,500	61	10	93,000	20				17	673,000	232	1	$12,000	3
New Orleans, La	1927	252	1,035,621	252	276	907,845	552	27	$233,669	45	26	730,846	84	5	42,000	25
	1928	241	936,450	241	375	1,002,060	750	63	761,833	116	18	182,890	58	3	49,260	12
New York, N. Y.:																
The Bronx	1927	676	5,115,100	676	742	7,705,500	1,484	28	399,700	50	617	63,296,000	15,433	26	3,843,000	772
	1928	742	5,148,800	742	364	3,823,885	728	31	452,000	58	585	85,300,000	20,484	35	6,262,500	1,225
Brooklyn	1927	2,529	16,822,300	2,529	1,415	14,467,500	2,830	462	5,964,000	924	862	38,605,500	9,646	144	8,304,000	2,082
	1928	1,632	11,204,400	1,632	813	7,780,700	1,626	346	4,509,500	692	619	42,224,400	11,134	182	7,370,500	1,902
Manhattan	1927	2	75,500	2	2	28,500	4				78	32,140,000	4,306			
	1928	1	3,000	1	2	75,000	4				141	59,840,000	8,531			
Queens	1927	6,197	37,265,200	6,197	1,329	11,003,550	2,658	295	2,723,500	506	585	26,079,100	7,879	29	1,669,000	326
	1928	5,328	29,064,970	5,328	530	4,342,900	1,060	367	3,271,100	652	498	34,647,400	10,100	40	3,755,500	876
Richmond	1927	731	3,398,179	731	51	365,600	102	35	323,000	57				1	30,000	9
	1928	648	2,861,864	648	59	456,300	118	22	201,000	35	15	1,519,000	422	3	82,000	24
Norfolk, Va	1927	170	841,975	170	2	8,000	4				9	292,000	138			
	1928	158	609,900	158	1	6,000	2				22	821,000	314	1	34,000	11
Oakland, Calif	1927	958	3,341,088	958	34	176,660	68	8	39,373	8	48	903,030	423	7	189,656	64
	1928	548	2,138,683	548	10	50,000	20	7	26,300	7	42	1,576,900	631	1	45,000	18
Oklahoma City, Okla	1927	582	2,200,000	582	56	263,960	112	1	6,000	1	22	579,000	193	1	18,000	8
	1928	1,156	3,718,690	1,156	1	2,500	2	2	25,700	4	38	621,550	272	1	10,000	4
Omaha, Nebr	1927	193	933,220	193	3	27,000	6				9	257,500	85			
	1928	168	945,300	168	4	80,000	8				3	95,000	25			
Paterson, N. J	1927	108	529,266	108	66	452,350	132	14	152,000	17	50	995,500	478	12	173,000	50
	1928	77	310,500	77	36	246,363	72	9	73,300	13	15	512,000	171	1	12,000	4
Philadelphia, Pa	1927	4,771	22,698,375	4,771	13	180,000	26	132	538,040	151	34	6,567,170	1,670	33	1,627,700	459
	1928	4,733	20,697,790	4,733	20	258,300	40	86	500,950	95	25	8,005,600	1,450	21	2,001,400	40
Pittsburgh, Pa	1927	1,030	6,374,806	1,030	38	321,500	76	15	123,000	17	11	1,395,000	287	3	62,000	15
	1928	891	5,515,611	891	47	442,275	94	7	24,800	7	8	252,000	71	3	18,000	15
Portland, Oreg	1927	1,420	6,019,760	1,420	30	225,000	60				31	2,105,000	550	3	240,000	45
	1928	1,021	4,410,510	1,021	34	272,000	68				22	899,500	220	3	150,000	20
Providence, R. I	1927	254	1,968,700	254	121	1,240,900	242	10	165,000	16	25	602,500	155	4	142,000	31
	1928	247	2,374,200	247	110	1,159,000	220	4	50,500	5	25	634,500	167	3	55,000	15
Reading, Pa	1927	105	693,000	105				1	8,000	2	5	123,000	24			
	1928	141	808,050	141				1	6,000	1						
Richmond, Va	1927	324	1,450,528	324	34	280,950	68				36	1,213,500	347			
	1928	345	1,707,931	345	22	144,200	44				3	420,000	81			

Rochester, N. Y.	1927	654	3,679,630	654	46	427,500	92	2	13,000	2	22	1,125,500	484	20	488,640	144
	1928	445	2,480,115	445	39	327,000	78	2	18,500	3	20	1,548,000	556	9	218,089	69
St. Louis, Mo.	1927	838	2,960,675	838	200	1,329,000	400	16	126,500	20	228	3,057,500	1,353	9	630,000	98
	1928	934	3,380,400	934	431	2,707,650	862	23	260,300	35	249	4,013,000	2,037	20	657,000	227
St. Paul, Minn.	1927	416	2,254,992	416	24	232,920	48				7	340,800	125	4	163,200	12
	1928	308	1,797,666	308	14	145,800	28				2	180,000	38			
Salt Lake City, Utah	1927	264	1,112,710	264	22	114,800	44				11	776,500	240			
	1928	232	946,410	232	41	58,900	82				5	388,000	153			
San Antonio, Tex.	1927	788	2,400,468	788	16	109,645	32	5	19,080	5	15	238,800	150			
	1928	1,140	4,289,703	1,140	44	306,200	88				30	567,040	500			
San Diego, Calif.	1927	1,238	3,977,843	1,238	64	288,226	128	10	63,040	20	40	378,400	144			
	1928	818	3,139,861	818	20	78,800	40				31	682,500	285	7	101,250	30
San Francisco, Calif.	1927	1,586	7,131,778	1,586	163	1,228,409	326	1	5,000	1	219	8,731,152	3,208	3	107,500	56
	1928	1,320	5,867,309	1,320	94	794,795	188	4	27,500	8	114	4,788,200	2,037	5	250,000	60
Scranton, Pa.	1927	90	409,650	90	24	182,500	48	5	49,700	12						
	1928	70	326,850	70	13	96,710	26	3	17,000	6	2	257,500	27			
Seattle, Wash.	1927	1,690	5,831,300	1,690							57	3,693,600	855			
	1928	1,405	4,849,975	1,405	7	41,550	14				99	5,764,000	1,900			
Somerville, Mass.	1927	4	16,000	4	41	395,770	82	1	10,000	2	30	622,500	176			
	1928				11	91,000	22				1	125,000	33			
Spokane, Wash.	1927	282	1,013,700	282				1	4,000	1	1	100,000	52			
	1928	273	1,041,350	273				2	5,000	2	1	16,000	6			
Springfield, Mass.	1927	246	1,106,200	246	57	375,100	114	1	6,500	2	21	1,424,000	461			
	1928	242	1,146,050	242	33	204,400	66				6	325,000	92	2	150,000	24
Syracuse, N. Y.	1927	533	3,367,900	533	71	625,500	142	2	13,000	3	15	611,000	159	6	245,000	45
	1928	415	2,512,700	415	49	430,500	98	19	134,000	28	15	976,000	286	5	490,000	118
Tacoma, Wash.	1927	409	1,107,670	409							6	387,000	108			
	1928	332	966,550	332							5	470,000	129	2	37,000	26
Tampa, Fla.	1927	437	945,155	437				2	10,500	2	7	80,800	31	1	3,500	3
	1928	390	947,280	390				6	34,500	6	2	17,200	8			
Toledo, Ohio	1927	799	3,310,275	799	35	247,850	70	6	74,500	10	10	339,500	105	7	120,150	28
	1928	710	2,966,100	710	39	292,650	78	7	24,750	10	6	208,000	62	2	32,000	8
Trenton, N. J.	1927	203	1,231,200	203				1	5,000	2				1	4,500	3
	1928	103	478,700	103							3	100,000	28	1	18,500	5
Tulsa, Okla.	1927	422	2,058,885	422	39	155,300	78	1	6,000	1	11	387,200	136	1	15,000	11
	1928	555	2,556,980	555	132	579,225	264				27	718,100	260			
Utica, N. Y.	1927	110	696,200	110	12	104,500	24									
	1928	111	756,650	111	8	61,500	16	2	18,000	2	2	415,000	66			
Washington, D. C.	1927	1,069	6,774,030	1,069	5	30,300	10	4	50,500	6	42	5,431,000	1,347	3	532,000	151
	1928	745	6,357,600	745	6	33,500	12				25	4,862,000	993	3	2,800,000	376
Wilmington, Del.	1927	183	1,217,325	183							2	50,000	12			
	1928	174	1,057,823	174				1	6,500	1	1	25,000	9	1	28,000	6
Worcester, Mass.	1927	273	1,694,890	273	44	379,700	88	4	30,500	5	37	554,100	141			
	1928	175	1,016,175	175	22	193,500	44				11	206,500	60			
Yonkers, N. Y.	1927	286	2,662,185	286	79	891,300	158				82	8,349,800	1,551	2	275,000	53
	1928	344	3,809,200	344	73	834,000	146				74	14,174,000	2,259	2	214,000	48
Youngstown, Ohio	1927	520	2,437,700	520	25	223,000	50	11	100,000	15	5	82,000	21	2	58,000	16
	1928	449	2,604,035	449	11	102,000	22	17	177,200	25	1	125,000	28			
Total (80 cities)	1927	65,188	319,616,929	65,188	11,618	98,141,450	23,236	1,501	16,207,139	2,474	6,515	355,957,616	89,016	707	39,384,233	8,055
(85 cities)	1928	59,861	291,080,646	59,861	9,190	71,586,825	18,380	1,340	14,057,773	2,283	6,068	429,009,191	105,980	680	41,436,804	8,702

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 1.—NEW RESIDENTIAL BUILDINGS—Continued

City and State	First half of each year	Total families provided for	Population of city		Ratio of families provided for to each 10,000 of population based on—		Nonhousekeeping dwellings						Total new residential dwellings	
			Census of 1920	Census estimate for year specified	Census of 1920	Census estimate for year specified	Hotels		Lodging houses		Other		Number	Cost
							Number	Cost	Number	Cost	Number	Cost		
Akron, Ohio	1927	1,441	208,435	(1)	69.1								1,253	$6,937,090
	1928	1,361		(1)	65.3				1	$5,000			1,218	6,469,338
Albany, N. Y	1927	269	113,344	119,500	23.7	22.5					1	$300,000	201	3,932,000
	1928	321		120,400	28.3	26.7					1	175,000	196	4,054,400
Atlanta, Ga	1927	1,346	200,616	(1)	67.1								881	3,509,460
	1928	1,480		255,100	73.8	58.0							942	4,736,549
Baltimore, Md	1927	2,224	733,826	819,000	30.3	27.2					1	25,000	2,129	8,909,000
	1928	1,983		830,400	27.0	23.9	2	$2,450,000			1	16,000	1,717	10,430,000
Birmingham, Ala	1927	1,825	178,806	215,400	102.1	84.7					1	93,750	1,390	6,146,384
	1928	1,624		222,400	90.8	73.0	1	25,000					1,152	4,396,245
Boston, Mass	1927	2,525	748,060	793,100	33.8	31.8					3	1,575,000	920	12,340,803
	1928	3,682		799,200	49.2	46.1							1,226	14,360,100
Bridgeport, Conn	1927	284	143,535	(1)	19.8								165	1,195,500
	1928	242		(1)	16.9						1	18,000	138	1,209,900
Buffalo, N. Y	1927	1,837	506,775	550,000	36.2	33.4							1,015	6,844,100
	1928	1,580		555,800	31.2	28.4					1	60,000	796	4,943,475
Cambridge, Mass	1927	423	109,694	123,900	38.6	34.1							117	2,120,900
	1928	694		125,800	63.3	55.2							111	2,717,800
Camden, N. J	1927	315	116,309	133,100	27.1	23.7							263	1,225,350
	1928	201		135,400	17.3	14.8							196	702,250
Canton, Ohio	1927	293	87,091	113,300	33.6	25.9							249	1,141,500
	1928	243		116,800	27.9	20.8							215	1,468,550
Chicago, Ill	1927	23,729	2,701,705	3,100,500	87.8	76.5	22	3,532,000			4	3,540,000	6,051	138,646,400
	1928	19,885		3,155,600	73.6	63.0	23	10,486,000			35	3,259,600	4,212	120,551,950
Cincinnati, Ohio	1927	1,723	401,247	412,200	42.9	41.8							1,046	9,751,133
	1928	1,987		413,700	49.5	48.0					1	130,000	1,130	11,948,785
Cleveland, Ohio	1927	1,960	796,841	984,500	24.6	19.9	1	175,000					1,210	9,604,100
	1928	1,966		1,010,300	24.7	19.5	3	370,000					1,093	10,070,100
Columbus, Ohio	1927	1,296	237,031	291,100	54.6	44.5					1	60,000	898	6,471,500
	1928	1,647		299,000	69.5	55.1					1	10,000	1,133	7,594,800
Dallas, Tex	1927	574	158,976	208,600	36.1	27.5							458	1,367,046
	1928	665		217,800	41.8	30.5	1	12,000					510	1,853,695

Dayton, Ohio	1927	784	152,559	180,400	51.4	43.5							507	2,648,507
	1928	541		184,500	35.5	29.3	1	2,234,000			1	844,291	248	4,962,203
Denver, Colo	1927	888	256,491	289,800	34.6	30.6					1	16,000	734	3,767,300
	1928	1,170		294,200	45.6	39.8	1	50,000					735	5,143,000
Des Moines, Iowa	1927	184	126,468	148,900	14.5	12.4							171	799,600
	1928	220		151,900	17.4	14.5							158	752,178
Detroit, Mich	1927	9,236	993,678	1,334,500	92.5	69.2	6	1,243,240			7	3,406,300	4,691	42,561,192
	1928	9,257		1,378,900	93.2	67.1	2	149,000			1	50,000	5,163	38,406,883
Duluth, Minn	1927	171	98,917	114,700	17.3	14.9							170	818,414
	1928	105		116,800	10.4	8.8							100	495,750
El Paso, Tex	1927	47	77,560	113,500	6.1	4.1							30	160,665
	1928	110		117,800	14.2	9.3							91	353,292
Fall River, Mass	1927	161	120,485	132,600	13.4	12.1							116	763,939
	1928	61		134,300	5.1	4.5					1	75,216	50	318,316
Flint, Mich	1927	1,731	91,599	142,700	189.0	121.3			1	13,000			1,650	6,364,666
	1928	1,168		148,800	127.5	78.5							1,010	4,686,280
Fort Wayne, Ind	1928	212	86,549	105,300	24.5	20.1					1	121,940	213	1,230,037
Fort Worth, Tex	1927	1,811	106,482	163,600	170.1	110.7			56	704,141			1,398	7,312,680
	1928	1,461		170,600	137.2	85.6	2	2,300,000	4	41,200	1	8,500	1,164	8,031,465
Grand Rapids, Mich	1927	615	137,634	158,700	44.7	38.8							604	2,467,750
	1928	498		164,200	36.2	30.3							480	1,999,895
Hartford, Conn	1927	679	138,036	168,300	49.2	40.3							198	3,366,614
	1928	1,050		172,300	76.1	60.9							157	3,305,517
Houston, Tex	1927	2,540	138,276	[2] 164,954	183.7	154.0			2	62,000			1,901	8,255,363
	1928	2,608		(1)	188.6		2	235,000	1	12,000			1,953	10,589,780
Indianapolis, Ind	1927	1,228	314,194	374,300	39.1	32.8							938	5,058,449
	1928	1,414		382,100	45.0	37.0	3	900,000					832	6,399,535
Jacksonville, Fla	1928	1,002	91,558	140,700	109.4	71.2							754	3,294,950
Jersey City, N. J	1927	866	298,103	321,500	29.1	26.9	1	160,000					126	3,209,700
	1928	933		324,700	31.3	28.7			1	22,000			102	3,696,500
Kansas City, Kans	1927	217	101,177	117,500	21.4	18.5							217	425,200
	1928	165		118,300	16.3	13.9			1	7,000			155	320,930
Kansas City, Mo	1927	2,187	324,410	383,100	67.4	57.1	1	20,000			1	200,000	736	5,877,700
	1928	1,185		391,000	36.5	30.3							553	4,561,200
Knoxville, Tenn	1928	422	77,818	105,400	54.2	40.0	1	210,000			23	510,000	426	2,095,724
Long Beach, Calif	1928	1,661	55,593	110,700	298.8	150.0	2	90,000					862	4,724,710
Los Angeles, Calif	1927	10,637	576,673	(1)	184.5		11	1,485,000					5,216	33,322,838
	1928	11,730		(1)	203.4		12	846,200					4,795	33,961,108
Louisville, Ky	1927	833	234,891	320,100	35.5	26.0							672	5,099,560
	1928	823		329,400	35.0	25.0							599	4,992,950
Lowell, Mass	1927	43	112,759	[3] 110,296	3.8	3.9							40	173,700
	1928	23		[3] 110,296	2.0	2.1							22	79,350
Lynn, Mass	1927	230	99,148	104,800	23.2	21.9							98	902,200
	1928	271		105,500	27.3	25.7							104	1,013,200
Memphis, Tenn	1927	1,132	162,351	178,900	69.7	63.3							673	3,479,300
	1928	965		190,200	59.4	50.7							569	3,456,350
Miami, Fla	1928	88	29,571	156,700	29.8	5.6	1	25,000					87	443,175
Milwaukee, Wis	1927	2,153	457,147	531,100	47.1	40.1	4	3,380,000			2	200,000	1,161	13,216,135
	1928	2,263		544,200	49.5	41.6	1	170,000	1	65,000			906	9,000,707
Minneapolis, Minn	1927	1,229	380,582	441,700	32.3	27.8	2	535,000			4	324,000	860	5,689,220
	1928	1,260		455,900	33.1	27.6	3	355,000			4	138,000	769	4,974,780

[1] Not estimated by Census Bureau.

[2] July, 1925, estimate.

[3] State census, Jan. 1, 1925.

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 1.—NEW RESIDENTIAL BUILDINGS—Continued

City and State	First half of each year	Total families provided for	Population of city		Ratio of families provided for to each 10,000 of population based on—		Nonhousekeeping dwellings						Total new residential dwellings	
							Hotels		Lodging houses		Other			
			Census of 1920	Census estimate for year specified	Census of 1920	Census estimate for year specified	Number	Cost	Number	Cost	Number	Cost	Number	Cost
Nashville, Tenn	1927	362	118,342	137,800	30.6	26.3	1	$500,000					286	$1,533,350
	1928	445		139,600	37.6	31.9							329	1,285,805
Newark, N. J	1927	2,607	414,524	466,300	62.9	55.9							516	13,916,850
	1928	2,076		473,600	50.1	43.8	1	150,000			1	$65,000	322	11,102,573
New Bedford, Mass	1927	61	121,217	[3] 119,539	5.0	5.1							54	365,700
	1928	25		[3] 119,539	2.1	2.1							22	188,300
New Haven, Conn	1927	307	162,537	184,900	18.9	16.6							89	1,110,000
	1928	316		187,900	19.4	16.8					3	152,000	92	1,398,500
New Orleans, La	1927	958	387,219	424,400	24.7	22.6	1	631,304					587	3,581,285
	1928	1,177		429,400	30.4	27.4							700	2,932,493
New York, N. Y.:														
The Bronx	1927	18,415											2,089	80,359,300
	1928	23,237											1,757	100,987,185
Brooklyn	1927	18,011					1	170,000					5,413	84,333,300
	1928	16,986					3	2,407,000					3,595	75,496,500
Manhattan	1927	4,312	5,620,048	5,970,800	105.3	99.2	8	9,206,000			13	2,232,000	103	43,682,000
	1928	8,536		6,017,500	121.0	113.0	26	46,180,000			11	6,179,000	181	112,277,000
Queens	1927	17,566					3	227,500			2	400,000	8,440	79,367,850
	1928	18,016											6,763	75,081,870
Richmond	1927	899											818	4,116,779
	1928	1,247					2	160,000			1	5,900	750	5,286,064
Norfolk, Va	1927	312	115,777	179,200	26.9	17.4							181	1,141,975
	1928	485		184,200	41.9	26.3	1	158,000					183	1,628,900
Oakland, Calif	1927	1,521	216,261	267,300	70.3	56.9	2	313,000					1,057	4,962,807
	1928	1,224		274,100	56.6	44.7	1	175,000			2	500,000	611	4,511,883
Oklahoma City, Okla	1927	896	91,295	[4] 104,080	98.1	86.1							662	3,066,960
	1928	1,438		(1)	157.5		1	20,000					1,199	4,398,440
Omaha, Nebr	1927	284	191,601	219,200	14.8	13.0							205	1,217,720
	1928	201		222,800	10.5	9.0							175	1,120,300
Paterson, N. J	1927	785	135,875	143,800	57.8	54.6							250	2,302,116
	1928	337		144,900	24.8	23.3					1	6,000	139	1,160,163
Philadelphia, Pa	1927	7,077	1,823,779	2,035,900	38.8	34.8					5	85,600	4,988	31,696,885
	1928	7,880		2,068,000	43.2	38.1					4	1,703,000	4,889	33,167,040

Philadelphia, Pa	1927	7,077	1,823,779	2,035,900	38.8	34.8					5	85,600	4,988	31,696,885
	1928	6,723		2,064,200	36.9	32.6					4	1,703,000	4,889	33,167,040
Pittsburgh, Pa	1927	1,425	588,343	642,700	24.2	22.2	1	240,000					1,098	8,516,306
	1928	1,078		673,800	18.3	16.0					2	297,000	958	6,549,686
Portland, Oreg	1927	2,075	258,288	[2]282,383	80.3	73.5	2	550,000					1,486	9,139,760
	1928	1,329		[1]	51.5		1	85,000			1	60,000	1,082	5,877,010
Providence, R. I	1927	698	237,595	280,600	29.4	24.9							414	4,119,100
	1928	654		286.300	27.5	22.8					1	85,000	390	4,358,200
Reading, Pa	1927	131	107,784	114,500	12.2	11.4					1	287,000	112	1,111,000
	1928	142		115,400	13.2	12.3							142	814,050
Richmond, Va	1927	739	171,567	191,800	43.1	38.5							394	2,944,978
	1928	470		194,400	27.4	24.2					1	75,000	371	2,347,131
Rochester, N. Y	1927	1,376	295,750	324,500	46.5	42.4							744	5,734,270
	1928	1,151		328,200	38.9	35.1					1	150,000	516	4,741,704
St. Louis, Mo	1927	2,709	772,897	839,200	35.0	32.3	1	400,000			2	215,000	1,294	8,718,675
	1928	4,095		848,100	53.0	48.3	8	2,567,000			2	241,000	1,667	13,826,350
St. Paul, Minn	1927	601	234,698	250,100	25.6	24.0	2	240,000					453	3,231,912
	1928	374		[1]	15.9								324	2,123,466
Salt Lake City, Utah	1927	548	118,110	135,700	46.4	40.4							297	2,004,010
	1928	467		138,000	39.5	33.8							278	1,393,310
San Antonio, Tex	1927	975	161,379	211,400	60.4	46.1	2	1,400,000					826	4,167,993
	1928	1,728		218,100	37.1	79.2							1,214	5,162,943
San Diego, Calif	1927	1,530	74,683	115,300	205.0	132.8							1,352	4,707,509
	1928	1,173		119,700	157.1	98.0	2	153,000					878	4,155,411
San Francisco, Calif	1927	5,177	508,676	576,000	101.8	89.9	6	745,000			1	6,600	1,979	17,955,439
	1928	3,613		585,300	71.0	61.7	3	336,800					1,540	12,064,604
Scranton, Pa	1927	150	137,783	143,900	10.9	10.4							119	641,850
	1928	129		144,700	9.4	8.9							88	698,060
Seattle, Wash	1927	2,545	315,312	[1]	80.7		2	750,000	1	$800			1,750	10,275,700
	1928	3,319		383,200	105.3	86.6	1	428,000			4	134,000	1,516	11,217,525
Somerville, Mass	1927	264	93,091	101,600	28.4	26.0							76	1,044,270
	1928	55		102,700	5.9	5.4							12	216,000
Spokane, Wash	1927	335	104,437	109,000	32.1	30.7							284	1,117,700
	1928	281		109,100	26.9	25.8							276	1,062,350
Springfield, Mass	1927	823	129,614	147,400	63.5	55.8							325	2,911,800
	1928	424		149,800	32.7	28.3	1	500,000					284	2,325,450
Syracuse, N. Y	1927	882	171,717	197,000	51.4	44.8	1	250,000					628	5,112,400
	1928	945		199,300	55.0	47.4					1	55,000	504	4,598,200
Tacoma, Wash	1927	517	96,965	107,200	53.3	48.2							415	1,494,670
	1928	487		110,500	50.2	44.1							339	1,473,550
Tampa, Fla	1927	473	51,608	107,800	91.7	43.9	1	40,000					448	1,079,955
	1928	404		113,400	78.3	35.6	1	100,000					399	1,098,980
Toledo, Ohio	1927	1,012	243,164	304,000	41.6	33.3							857	4,092,275
	1928	868		313,200	35.7	27.7							764	3,523,500
Trenton, N. J	1927	208	119,289	136,700	17.4	15.2							205	1,240,700
	1928	136		139,000	11.4	9.8							107	597,200
Tulsa, Okla	1927	648	72,075	150,000	89.9	43.2	2	135,000	2	27,800			478	2,785,185
	1928	1,079		170,500	149.7	63.3	3	890,000					717	4,744,305
Utica, N. Y	1927	134	94,156	103,400	14.2	13.0							122	800,700
	1928	195		104,200	20.7	18.7					1	250,000	124	1,501,150

[1] Not estimated by Census Bureau.

[2] State census, Jan. 1, 1925.

[4] July, 1924, estimate.

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 1.—NEW RESIDENTIAL BUILDINGS—Continued

City and State	First half of each year	Total families provided for	Population of city		Ratio of families provided for to each 10,000 of population based on—		Nonhousekeeping dwellings						Total new residential dwellings	
			Census of 1920	Census estimate for year specified	Census of 1920	Census estimate for year specified	Hotels		Lodging houses		Other		Number	Cost
							Number	Cost	Number	Cost	Number	Cost		
Washington, D. C.	1927	2,583	437,571	540,000	59.0	47.8	2	$1,350,000					1,125	$14,167,130
	1928	2,126		552,000	48.6	38.5	1	1,500,000					780	15,553,100
Wilmington, Del.	1927	195	110,168	126,400	17.7	15.4					1	$41,122	186	1,308,447
	1928	190		128,500	17.2	14.8							177	1,117,323
Worcester, Mass.	1927	507	179,754	195,500	28.2	25.9					1	300,000	359	2,959,190
	1928	279		197,600	15.5	14.1					2	389,000	210	1,805,175
Yonkers, N. Y.	1927	2,048	100,176	118,800	204.4	172.4	1	100,000					450	12,278,285
	1928	2,797		121,300	279.2	230.6							493	19,031,200
Youngstown, Ohio	1927	622	132,358	169,400	47.0	36.7	1	400,000					564	3,300,700
	1928	524		174,200	39.6	30.1							478	3,008,235
Total (80 cities)	1927	187,969	28,459,394	[1] 32,280,223	66.0	58.2	88	28,178,044	62	$807,741	52	13,307,302	85,731	871,600,524
(85 cities)	1928	195,206	28,800,483	[1] 33,570,795	67.8	58.1	117	76,717,000	9	152,200	112	15,763,447	77,377	939,803,886

[1] See notes to details.

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 2.—NEW NONRESIDENTIAL BUILDINGS

City and State	First half of each year	Amusement and recreation places		Churches		Factories, shops, etc.		Garages (public)		Garages (private)		Gasoline and service stations		Institutions		Office buildings	
		Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost
Akron, Ohio	1927	2	$18,350	6	$200,171	15	$40,600			1,048	$324,601	28	$56,509			79	$2,816,785
	1928	3	80,500	2	64,000	21	84,075	7	$251,600	998	218,857	18	68,822				
Albany, N. Y	1927	3	110,000	1	350,000	1	100,000	5	14,500	184	211,900	22	59,200				
	1928			1	80,000	1	26,000	7	381,100	172	171,690	2	7,000	1	$1,250,000	1	800,000
Atlanta, Ga	1927	6	90,500	7	231,850	2	145,000	3	74,100	182	18,827	18	57,825				
	1928	1	1,850,000	8	74,200	1	8,000	5	221,000	144	18,395	10	36,000	1	100,000		
Baltimore, Md	1927			8	382,000	8	428,000	5	147,000	1,731	871,100	11	53,000	1	100,000	2	10,000
	1928	1	35,000	5	355,000	16	319,000	15	106,000	1,309	682,600	18	182,500	1	325,000	3	402,000
Birmingham, Ala	1927	33	631,226	12	201,750	23	120,750	15	135,360	270	42,719	29	136,875	3	674,812	11	57,562
	1928	6	260,963	10	151,916	19	374,500	7	132,930	221	39,005	10	36,300	2	218,500	11	682,884
Boston, Mass	1927	1	50,000	3	77,000	8	253,800	8	522,000	510	387,955	8	41,150	4	899,000	4	2,021,000
	1928	4	400,000	4	176,000	11	865,000	2	384,000	502	418,550	15	217,000	4	561,000	3	533,000
Bridgeport, Conn	1927	1	33,000			4	90,500	8	98,700	245	92,316	1	31,120	1	37,477	3	9,700
	1928	1	4,000							204	120,619	13	82,400				
Buffalo, N. Y	1927	3	242,500	6	480,000	42	1,571,820	66	116,540	1,312	547,034	87	88,715	2	85,000	2	315,000
	1928	3	448,000	3	48,000	28	548,800	103	138,505	1,213	432,200			2	250,000	5	2,013,500
Cambridge, Mass	1927	1	75,000	1	40,000	10	726,500	9	172,180	83	72,745	6	25,500			3	302,500
	1928			2	56,800	6	112,000	1	15,900	90	61,940	3	7,100	2	1,035,000	4	22,100
Camden, N. J	1927			1	14,000	20	318,200	2	37,000	226	102,690	8	42,100	1	112,000	5	158,200
	1928					20	608,900	2	6,000	137	50,015	5	37,295			5	710,325
Canton, Ohio	1927	1	150,000	2	14,000	8	102,450	12	61,800	313	67,981	13	17,850				
	1928	1	100,000	2	158,500	4	101,600	5	8,600	265	57,292	11	24,850	1	18,000		
Chicago, Ill	1927	7	1,460,000	12	1,087,000	147	5,471,800	115	5,609,400	4,442	1,678,650	137	502,300	11	2,401,900	40	27,383,300
	1928	3	4,370,000	24	3,318,000	109	10,636,200	66	1,987,500	2,657	956,500	142	726,300	5	3,000,000	39	14,066,800
Cincinnati, Ohio	1927			2	122,000	13	465,000	9	338,500	788	355,360	15	24,735			6	48,500
	1928	4	102,000	1	225,000	2	80,000	5	492,800	773	352,605	10	33,700	1	600,000		
Cleveland, Ohio	1927	8	1,035,000	3	120,000	31	785,500	11	671,500	2,268	533,900	71	120,900			2	45,000
	1928	2	91,500	4	190,500	27	532,600	5	53,800	1,868	479,100	50	72,350	2	875,000	16	376,100
Columbus, Ohio	1927	3	1,960,000	1	5,000	6	46,500	11	518,000	1,330	388,500	27	63,400			3	575,000
	1928	4	167,000			7	154,000	1	12,000	1,331	396,150	11	48,700			4	201,000
Dallas, Tex	1927	3	17,000	6	135,400	2	33,700	6	103,900	101	24,183	23	58,800	4	21,000	12	331,285
	1928			7	162,900	13	124,166	13	107,750	102	22,724	11	26,150	2	40,200	16	92,865
Dayton, Ohio	1927	1	200,000			23	540,650	10	66,280	634	330,998	15	98,400				
	1928			3	39,000	34	409,633	13	435,463	515	267,383	4	20,000				
Denver, Colo	1927	5	577,000	2	32,000	8	60,500	9	198,500	400	188,600	20	68,500	2	137,400	2	107,000
	1928			4	93,000	5	57,000	6	145,000	337	154,100	23	46,250			1	390,000
Des Moines, Iowa	1927	1	2,000	5	104,900			5	17,215	206	34,001	9	26,950			1	111,000
	1928	3	10,650	1	40,000	2	54,251	5	35,275	234	37,679	21	49,050	2	21,000		

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 2.—NEW NONRESIDENTIAL BUILDINGS—Continued

City and State	First half of each year	Amusement and recreation places		Churches		Factories, shops, etc.		Garages (public)		Garages (private)		Gasoline and service stations		Institutions		Office buildings	
		Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost
Detroit, Mich	1927	10	$8,393,500	20	$1,031,600	70	$5,235,862	50	$1,094,950	5,818	$1,582,804	136	$342,956			18	$2,920,340
	1928	3	752,000	9	719,600	84	3,395,220	33	1,503,790	5,406	1,413,308	63	206,320			21	2,853,164
Duluth, Minn	1927	2	23,000	2	14,500					194	44,995	5	6,100				
	1928							1	13,000	156	34,814	2	500				
El Paso, Tex	1927	1	8,000	1	3,000					100	15,000	1	500				
	1928	1	1,500	2	16,750			3	14,100	120	18,540	3	5,900			2	22,950
Fall River, Mass	1927			2	188,000	2	24,900	10	13,475	100	41,175	4	6,890				
	1928	2	3,150	1	200,000	4	3,890	9	15,900	62	20,290	6	27,950			1	75,000
Flint, Mich	1927	6	510,000	4	90,250	35	2,064,218	8	12,443	948	283,894	8	23,445			11	497,600
	1928			4	45,945	16	163,425	11	94,000	741	238,591	24	91,150			3	203,700
Fort Wayne, Ind	1928			2	14,000	4	7,850	5	49,400	374	104,973	6	26,233				
Fort Worth, Tex	1927	18	114,312	10	102,615	6	78,914	75	430,165	314	49,316	21	73,500	2	$62,162		
	1928	10	66,500	22	42,269	6	75,832	39	236,108	239	24,483	8	28,500				
Grand Rapids, Mich	1927			1	84,000	3	134,800	7	19,500	822	238,290	17	50,050			9	216,650
	1928			1	42,000	7	316,000	12	159,400	705	168,625	10	34,900			3	13,500
Hartford, Conn	1927	1	26,000	1	109,538	6	104,685	5	30,300	305	255,060	2	50,400	3	470,000	1	3,000
	1928	1	6,500			3	11,000	4	20,700	231	204,555	9	23,700	2	110,400	4	367,900
Houston, Tex	1927	2	778,000	14	133,050	24	814,250	6	345,500	87	47,255	20	47,015	5	859,500	10	323,600
	1928	2	217,000	18	456,650	25	748,736	14	385,200	103	58,629	26	83,729	1	60,000	9	3,657,845
Indianapolis, Ind	1927	7	2,450,921	9	298,265	30	522,754	5	45,985	1,557	368,257	13	46,760	2	412,000	4	6,000
	1928			6	599,500	11	771,700	9	47,200	1,378	361,743	79	44,575			5	116,600
Jacksonville, Fla	1928	1	14,000	8	321,500	3	51,000	5	19,100	171	41,580	19	60,650				
Jersey City, N. J	1927					13	239,595	21	168,229	225	184,415					6	164,200
	1928					9	370,200	15	111,980	135	117,598	2	7,000			10	628,200
Kansas City, Kans	1927			3	31,000	2	68,000			61	6,500	2	3,000				
	1928			2	2,700	3	364,000			134	17,160	3	2,700			2	77,500
Kansas City, Mo	1927	4	42,125	4	118,000	22	392,250	9	101,000	300	74,775	39	89,050				
	1928	2	170,000	3	118,000	9	153,000	8	235,000	192	62,675	20	111,250	2	475,000	4	1,527,000
Knoxville, Tenn	1928	4	39,840	4	72,600	8	64,600	8	44,640	92	14,538	22	55,625			8	465,600
Long Beach, Calif	1928	4	64,000	1	1,500	8	23,300	18	105,450	692	257,110	19	24,690	1	25,000		
Los Angeles, Calif	1927	24	1,931,425	27	944,025	132	1,663,437	73	1,371,729	4,984	1,204,499	175	152,441	8	376,383	42	507,205
	1928	20	293,178	24	1,285,200	133	777,619	48	265,050	4,458	1,363,671	242	198,952	9	742,677	42	1,783,050
Louisville, Ky	1927	2	31,750	8	96,250	11	601,000	27	211,225	252	71,425	12	43,500	2	1,900,000	2	2,750,000
	1928			5	208,500	7	615,000	4	58,250	349	104,750	3	12,800			2	900,000
Lowell, Mass	1927							1	2,500	95	22,015	6	23,500				
	1928	1	135,000							59	14,090	1	3,000				
Lynn, Mass	1927	1	150,000	1	50,000	6	121,975	9	44,300	151	56,010						
	1928	1	200	1	200	3	245,100	6	12,000	172	55,120	3	2,000				

Memphis, Tenn	1927	1	15,600	4	152,750	4	206,700	5	230,100	465	128,180	10	58,500	1	26,000	4	291,200
	1928	3	788,600			4	83,200	3	80,600	524	152,005	12	65,650	2	143,000		
Miami, Fla	1928	14	70,525	6	40,300	3	4,000	10	51,450	118	25,016	15	35,350			3	41,701
Milwaukee, Wis	1927	6	2,202,167	2	58,000	14	144,400	14	583,000	1,837	723,816	35	77,575			10	177,800
	1928			1	25,700	22	584,700	10	229,500	1,353	500,273	16	41,300			10	67,000
Minneapolis, Minn	1927	3	1,171,000	5	326,500	6	51,400	15	120,925	1,248	291,150	48	95,100	1	140,000	10	1,050,300
	1928			2	112,300	11	206,225	19	122,775	1,122	269,965	19	41,000			8	702,950
Nashville, Tenn	1927	4	214,000	6	131,000	1	57,500	6	33,800	61	6,825	6	11,400				
	1928			4	340,000	3	154,500	7	119,300	52	6,270	9	28,500				
Newark, N. J	1927	1	15,000	2	172,000	35	1,206,507	130	419,740	523	700,392	6	18,000			22	2,290,800
	1928	5	13,500			20	973,362	5	177,000	500	503,602	10	66,300	1	150,000	16	615,644
New Bedford, Mass	1927	1	1,500			2	5,000	3	20,000	97	80,550	11	28,750				
	1928					3	14,000	5	16,500	63	37,490	5	13,000				
New Haven, Conn	1927	1	50,000	1	32,000	4	56,200			187	130,600	11	27,000	1	715,000	2	490,000
	1928	2	55,000			8	625,000	5	98,000	158	101,000	9	36,500	1	90,000	1	65,000
New Orleans, La	1927	6	169,060	2	7,850	5	146,747	6	60,529	35	48,500	19	89,294	1	164,823	4	1,686,763
	1928	1	18,139	2	313,059	5	4,335	10	15,000	48	9,295	17	19,000	1	173,855	1	6,500
New York, N. Y.:																	
The Bronx	1927	26	7,945,500	9	670,000	48	1,661,850	207	3,766,930	408	174,500	12	64,200			19	529,800
	1928	200	3,187,504	7	925,000	58	1,875,250	272	4,036,200	516	120,135	12	49,200	2	558,000	10	1,499,850
Brooklyn	1927	27	6,783,000	8	510,000	113	4,341,400	82	3,191,500	2,650	1,399,915	37	162,525	1	75,000	23	4,508,500
	1928	18	3,942,000	17	1,620,000	62	4,260,000	75	2,996,500	2,305	1,043,570	97	283,850			18	1,555,500
Manhattan	1927	20	6,756,000	2	2,800,000	24	11,258,000	28	4,816,300	149	34,700	7	5,750	4	1,850,000	47	51,370,500
	1928	16	4,325,000	1	90,000	22	14,388,000	21	1,887,725	311	51,480	13	41,300	4	4,100,000	35	52,370,800
Queens	1927	25	4,193,800	12	2,376,500	45	945,000	36	785,350	3,604	1,355,128	46	117,347	1	200,000	15	1,393,500
	1928	16	773,000	15	776,500	42	1,752,500	71	2,491,200	3,112	1,207,699	71	273,504	1	20,000	25	560,550
Richmond	1927	2	9,500	4	86,000	3	35,000	4	33,500	413	113,622	4	13,500			1	2,000
	1928	6	962,700	4	155,000	4	111,500	3	213,000	417	105,662	10	9,650	1	50,000	2	3,700
Norfolk, Va	1927					2	17,500			248	48,418	2	5,250			1	12,750
	1928	2	11,700	1	35,000	5	36,900	1	15,300	226	62,868	10	16,985	1	28,000		
Oakland, Calif	1927	4	78,800	5	58,500	30	317,600	6	79,850	1,063	372,779	17	31,450	2	433,500	4	515,600
	1928	9	287,749	2	160,000	35	193,745	12	319,000	685	207,490	20	22,340	1	80,000	3	101,500
Oklahoma City, Okla	1927	1	9,000	6	81,500	13	123,900	4	54,000	569	100,800	1	8,000	1	100,000	3	742,500
	1928			1	1,500	8	296,700	8	136,500	875	188,190	8	30,100	2	50,000	6	114,100
Omaha, Nebr	1927	1	55,000	2	27,500	3	104,500	1	1,600	121	30,185	18	33,900			4	160,500
	1928	3	398,000	1	1,400	3	96,000	2	48,000	168	31,616	11	25,500			1	3,500
Paterson, N. J	1927	3	23,500	1	20,000	5	35,000	56	28,925	145	141,990	7	39,775	3	34,100		
	1928			4	210,000	8	455,750	1	3,500	169	80,919	8	20,800	1	600,000		
Philadelphia, Pa	1927	3	652,600	9	645,500	89	3,241,575	45	1,842,760	793	789,750			8	2,360,500	24	4,759,875
	1928	14	3,712,000	16	815,700	80	2,746,695	55	1,216,760	706	521,470			6	2,186,600	32	3,575,665
Pittsburgh, Pa	1927	4	64,000	5	198,000	15	397,850	9	37,850	946	618,037	15	68,000	1	1,650,000	4	1,230,000
	1928	5	252,960	6	821,500	10	794,500	2	168,000	777	785,426	19	112,050	1	4,000,000	10	6,952,050
Portland, Oreg	1927	5	1,383,440	3	100,000	15	411,650	39	1,401,700	1,725	276,925	22	180,000	1	6,000	7	1,779,600
	1928	6	866,000	2	150,000	16	155,350	33	529,005	1,252	221,620	15	45,000			6	1,156,500
Providence, R. I	1927	2	639,000	1	12,000	9	58,000	14	138,500	405	343,115	23	79,900			12	3,704,200
	1928					9	230,000	10	290,000	450	307,160	23	34,500	1	50,000	14	153,900
Reading, Pa	1927	2	282,500	3	215,000	10	83,600	12	85,850	195	136,925	4	9,800				
	1928					6	38,895	17	225,125	165	86,545	6	12,000			4	95,575
Richmond, Va	1927	2	454,722	5	534,421			8	63,100	209	73,122					5	46,350
	1928			3	104,800	1	17,000	1	3,000	153	60,802					2	18,000
Rochester, N. Y	1927	3	189,200	2	75,000	9	698,700	5	48,500	1,054	387,739	30	83,350	2	195,000	2	830,000
	1928	1	85,000	3	116,300	5	143,050	6	219,000	809	284,149	13	28,250			3	144,500

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 2.—NEW NONRESIDENTIAL BUILDINGS—Continued

City and State	First half of each year	Amusement and recreation places		Churches		Factories, shops, etc.		Garages (public)		Garages (private)		Gasoline and service stations		Institutions		Office buildings	
		Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost
St. Louis, Mo	1927	47	$136,200	5	$320,400	30	$432,950	5	$135,000	1,781	$447,805	7	$27,500	2	$154,000	8	$1,596,000
	1928	45	28,694	12	496,500	16	289,850	6	390,000	1,794	417,251	15	38,900	5	490,000	4	760,000
St. Paul, Minn	1927			1	150,000	1	1,320	7	37,440	722	164,558	8	28,800				
	1928			1	48,000	3	97,200	1	2,400	638	155,634	2	14,000			1	36,000
Salt Lake City, Utah	1927	1	600	1	50,000	4	53,500	4	114,000	55	28,810	7	16,000			2	25,300
	1928			2	27,000	3	9,400	7	84,500	65	11,964	17	71,800			1	38,000
San Antonio, Tex	1927			6	160,600	9	313,020	5	31,600	223	59,961	15	62,005	1	300,000	3	452,000
	1928			4	185,800	6	68,900	5	118,000	182	66,171	33	143,500			2	2,070,000
San Diego, Calif	1927	11	704,500	6	37,500	15	81,190	14	143,400	446	90,045	13	17,550			11	1,120,800
	1928	6	191,800	3	95,050	13	33,820	13	203,900	377	92,118	16	64,300	5	511,500	13	25,725
San Francisco, Calif	1927	5	522,000	4	91,750	26	654,100	7	242,450	77	39,910	19	20,755	3	42,399	2	50,000
	1928	6	343,750	2	102,000	18	192,950	4	227,000	71	71,556	15	65,000			21	1,671,575
Scranton, Pa	1927	1	1,496,000	2	44,000	4	383,300	3	81,200	246	147,367	4	16,300			1	30,000
	1928	2	123,000							152	72,995	10	60,050	1	130,029		
Seattle, Wash	1927	3	190,000	1	50,000	34	481,875	17	305,200	996	197,425	25	37,500	1	100,000	14	107,525
	1928	1	100,000	2	45,000	17	256,600	13	193,000	800	159,675	28	54,200			11	2,535,600
Somerville, Mass	1927	1	60,000	1	75,000	3	198,000	2	120,000	91	80,405	11	29,250	1	160,000		
	1928									10	7,500						
Spokane, Wash	1927			3	31,500	5	30,000	3	22,000	429	48,740	3	2,000			1	5,000
	1928	2	24,550	1	337,000	7	7,600	11	275,600	357	40,952	6	20,200	1	80,000		
Springfield, Mass	1927	2	730,000			6	110,000			464	260,832	14	18,600				
	1928	4	230,000			2	31,000			341	139,700	8	28,354	1	110,000	2	168,000
Syracuse, N. Y	1927	2	914,000			7	230,675	5	99,500	753	267,939	26	37,300	1	40,500	7	750,000
	1928	5	258,000	1	85,000	5	324,790	9	75,500	603	203,860	17	49,600			3	116,000
Tacoma, Wash	1927	2	42,900	1	5,000	5	124,000	3	33,500	100	6,000	7	12,000	3	155,568		
	1928					10	242,000	5	88,500	35	7,000	10	16,500			4	15,500
Tampa, Fla	1927	2	30,900	2	19,000	7	100,400	4	16,500	310	44,205	10	41,400	1	11,000	5	46,170
	1928	4	205,100	2	46,000	6	96,300	2	3,100	199	28,900	3	5,600			2	5,500
Toledo, Ohio	1927	11	328,358	2	58,000	20	772,746	2	13,500	1,406	335,126	16	27,400	1	10,000		
	1928	3	1,308,500	2	53,500	4	182,000	6	78,000	1,178	283,787	1	35,000	1	1,203,000		
Trenton, N. J	1927	1	463,000	1	150,000	21	124,935	36	44,765	206	111,020	14	49,350	1	95,918	2	362,000
	1928	1	447,500	1	28,400	8	78,900	1	6,500	170	62,247	5	22,000	1	260,000		
Tulsa, Okla	1927	2	40,000	3	111,000	8	23,800	5	140,500	577	195,434	13	35,700	1	500,000	6	2,503,200
	1928			2	15,000	13	115,700	12	225,000	774	256,771	12	46,600			1	375,000
Utica, N. Y	1927	1	100,000			5	76,000	5	21,500	131	49,925	5	8,750				
	1928			2	150,000	1	700	4	161,200	103	39,660	14	23,800			1	6,000

Washington, D. C.	1927	2	66,684	4	269,500	6	956,250	7	707,000	774	227,360	11	92,500	3	146,169	10	1,764,110
	1928	5	94,296	4	618,350	5	78,000	13	422,740	794	237,605	7	44,000	2	303,491	11	1,848,000
Wilmington, Del.	1927			2	232,000	5	647,425	3	20,500	418	134,566	3	28,000	1	101,000		
	1928									352	100,327	4	31,500	1	118,631	1	33,000
Worcester, Mass.	1927	3	6,000	3	180,000	11	29,465	61	157,230	230	118,060	12	26,750			3	252,800
	1928	6	40,000	2	250,000	12	67,300	41	116,075	179	82,332	8	19,000			2	56,200
Yonkers, N. Y.	1927	1	25,000	6	405,000	11	422,800	23	352,900	286	194,701	8	29,600			2	5,000
	1928			1	150,000	5	276,500	25	732,800	278	172,747	8	179,900			1	20,000
Youngstown, Ohio	1927	1	150,000	1	16,000	9	30,000	9	62,000	370	85,000	12	57,000	1	90,000	1	150,000
	1928	5	58,000	1	4,500	8	14,925	3	26,000	473	71,603	7	12,700	1	400,000		
Total (80 cities)	1927	409	60,474,640	339	18,637,435	1,489	55,251,240	1,580	33,539,770	62,827	22,662,602	1,663	4,563,252	100	18,405,111	579	128,472,870
(85 cities)	1928	504	32,885,048	337	18,930,889	1,284	55,958,789	1,365	27,443,246	56,000	15,388,319	1,641	5,172,024	86	25,592,883	515	112,567,168

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 2.—NEW NONRESIDENTIAL BUILDINGS—Continued

City and State	First half of each year	Public buildings		Public works and utilities		Schools, libraries, etc.		Sheds		Stables and barns		Stores, warehouses, etc.		All other		Total	
		Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost
Akron, Ohio	1927			5	$77,500	2	$320,000	12	$5,835							1,197	$3,860,351
	1928	1	$61,000	1	25,000			16	3,545			61	$271,513	5	$209,050	1,133	1,337,962
Albany, N. Y	1927			1	110,000	1	250,000	9	1,200			17	184,800			244	1,391,600
	1928			1	25,000	1	500,000					10	245,600			197	3,486,390
Atlanta, Ga	1927	2	22,690					135	47,445			87	1,269,150			442	1,957,387
	1928	2	23,000	1	1,700,000	11	1,673,529	87	15,427			64	563,363			335	6,282,914
Baltimore, Md	1927			2	220,000	2	950,000	2	3,500	1	$4,000	45	859,000			1,818	4,027,600
	1928	1	12,000			8	447,000					51	357,000	1	6,000	1,429	3,229,100
Birmingham, Ala	1927	2	147,500	6	246,506	1	61,117	18	3,635	2	5,625	119	983,225	1	500	545	3,449,162
	1928	2	12,000			10	582,726	30	3,785	1	50	107	1,156,414	4	33,900	440	3,685,873
Boston, Mass	1927	1	80,000	3	405,000	7	2,107,984	155	122,014	1	5,000	63	1,105,317			776	8,077,220
	1928			6	1,529,000			125	147,484	1	2,500	86	3,904,150	2	60,000	765	9,197,684
Bridgeport, Conn	1927					1	70,000	9	5,950			10	47,750			283	516,513
	1928			1	200,000	1	120,000	5	4,800			8	130,600			233	662,419
Buffalo, N. Y	1927	1	250,000	4	187,000	8	2,437,449	50	20,050	1	1,500	12	419,725			1,596	6,762,333
	1928			3	22,100	7	955,000	26	23,850			60	1,731,810			1,453	6,611,765
Cambridge, Mass	1927					1	60,000	7	1,650			10	106,700			131	1,582,775
	1928							5	5,690	1	1,600	14	1,084,300			128	2,402,430
Camden, N. J	1927			1	21,000	1	39,000					5	578,000			270	1,422,190
	1928			6	115,000							10	1,601,350			185	3,128,885
Canton, Ohio	1927							20	3,210	2	1,000	11	62,450			382	480,741
	1928							7	450	1	50	11	26,025			308	495,367
Chicago, Ill	1927	13	8,083,000	21	1,032,000	12	3,933,000	196	151,175	1	4,000	305	6,939,900	6	49,300	5,465	65,786,725
	1928	7	2,278,000	13	2,265,800	27	7,969,000	83	48,695	1	11,000	336	7,925,600			3,512	59,559,395
Cincinnati, Ohio	1927							46	44,815	1	5,000	25	202,300			905	1,606,210
	1928					1	150,000	54	17,010	1	6,000	21	148,400			873	2,207,515
Cleveland, Ohio	1927			1	60,000	2	925,000			1	1,800	69	2,504,000			2,467	6,802,600
	1928			2	5,050,000	5	2,446,000			2	15,300	92	2,603,300			2,075	12,785,550
Columbus, Ohio	1927	1	300,000			2	1,010,000	55	35,800	1	200	43	534,400			1,483	5,436,800
	1928							43	38,300	1	400	35	297,500			1,437	1,315,050
Dallas, Tex	1927	2	716,500	4	3,450	2	143,250	92	75,016			46	881,892			303	2,545,376
	1928	1	18,000					39	10,960			93	765,750			297	1,371,465
Dayton, Ohio	1927					4	817,266			1	600					688	2,054,194
	1928							32	18,793			2	144,000			603	1,334,272
Denver, Colo	1927					1	76,000	323	64,800			47	410,750	276	162,450	1,095	2,083,500
	1928	3	33,650			7	475,000	255	47,900			80	1,589,050			721	3,030,950
Des Moines, Iowa	1927			1	60,000			8	2,610			43	153,875			279	512,551
	1928	1	523,000	1	1,000,000			15	2,893	1	100	24	66,625	5	46,000	315	1,886,523

Detroit, Mich	1927	5	1,101,639			8	1,645,063					297	4,292,987	10	182,200	6,442	27,823,901
	1928	4	114,813			8	1,614,411					311	8,913,351	6	990,000	5,948	22,475,977
Duluth, Minn	1927	2	655,000	2	1,600			35	8,955	2	5,100	6	95,300	10	3,976	260	858,526
	1928					1	17,500	22	2,475	1	100	7	17,300	2	839,000	192	924,689
El Paso, Tex	1927	1	8,000	1	4,240							1	18,000			106	56,740
	1928			1	30,000							20	303,440			152	413,180
Fall River, Mass	1927							10	2,895	1	40	22	45,180	2	480	153	323,035
	1928			2	2,210			16	6,560			7	18,050	2	175	112	373,175
Flint, Mich	1927	1	721,522	1	18,000	1	382,500	59	16,727	1	35	42	249,339	205	68,818	1,330	4,938,791
	1928	1	14,000	1	12,000			70	12,867			53	558,830	147	50,012	1,071	1,484,520
Fort Wayne, Ind	1928					1	81,304	3	725			16	320,785	2	4,170	413	609,440
Fort Worth, Tex	1927					4	241,300	46	5,750	12	14,800	180	2,479,685	9	7,841	697	3,660,360
	1928							29	9,500	24	6,000	20	148,500	11	2,110	408	639,802
Grand Rapids, Mich	1927	4	90,000	1	90,000			29	13,975			42	576,200			935	1,513,465
	1928					4	374,000	26	28,575			27	207,800			795	1,344,800
Hartford, Conn	1927	3	1,624,300	1	6,000	2	313,477	23	11,095	1	30	5	428,000			359	3,431,885
	1928			1	2,000	2	385,000	12	6,205			17	459,250	10	25,402	296	1,622,612
Houston, Tex	1927	1	10,900			9	701,146					84	1,867,205	52	58,010	314	5,985,431
	1928	3	63,000	3	373,968	2	295,000					101	1,166,019	245	282,488	552	7,848,264
Indianapolis, Ind	1927	30	522,754			2	1,800,000	44	3,914			88	672,280			1,791	7,149,830
	1928					1	142,000	31	4,174			69	1,395,620			1,589	3,483,112
Jacksonville, Fla	1928	1	130,000	1	60,000	1	3,500	58	20,485	1	7,000	41	212,950	71	6,660	381	948,425
Jersey City, N. J	1927			12	602,409			1	1,500			25	212,300			303	1,572,648
	1928			9	550,650			12	18,350	1	1,500	7	126,940			200	1,932,418
Kansas City, Kans	1927					3	233,000					29	176,500			100	518,000
	1928					1	6,000					34	127,780			179	597,840
Kansas City, Mo	1927					6	558,000	25	5,550			49	592,700			458	1,973,450
	1928	1	4,000	3	41,500	1	90,000	2	200	4	4,100	38	381,850	58	32,900	347	3,406,475
Knoxville, Tenn	1928							72	50,470			30	265,360			248	1,073,273
Long Beach, Calif	1928	7	40,000	5	46,000	1	128,000	27	2,950			145	1,052,970			928	1,770,970
Los Angeles, Calif	1927			16	472,044	25	1,003,500	1,035	298,388			307	6,335,815	61	541,425	6,909	16,802,316
	1928			14	406,852	14	832,345	761	259,791			325	4,457,991	74	157,395	6,164	12,823,771
Louisville, Ky	1927			1	150,000	6	1,450,000	229	41,085	2	1,300	52	647,800			606	7,995,335
	1928					5	352,500	192	24,910	9	2,150	31	575,500			607	2,854,360
Lowell, Mass	1927			1	65,000			20	1,170	2	2,500	3	24,800	1	3,500	129	144,985
	1928							14	4,115			2	10,025	3	105	80	166,335
Lynn, Mass	1927			1	340,000			15	8,469			9	114,000	1	50	194	884,804
	1928	1	1,400	1	500			12	6,425	4	24,202	12	119,100	16	176	232	466,423
Memphis, Tenn	1927			1	65,000	1	292,500	18	21,840	1	7,800	37	1,906,060			552	3,402,230
	1928					3	851,500	37	16,380	2	780	34	841,230			624	3,022,945
Miami, Fla	1928					1	600	82	8,237			29	153,825	68	40,862	349	471,866
Milwaukee, Wis	1927	4	187,000	2	24,500	4	178,000	184	118,755			51	944,675			2,163	5,419,688
	1928					2	27,000	235	81,769			34	995,700			1,683	2,552,942
Minneapolis, Minn	1927	8	1,057,370			10	590,770	13	1,300	1	60	44	281,445	17	290,695	1,429	5,468,015
	1928			3	4,300	5	1,423,530	12	950			66	485,375	8	59,055	1,275	3,428,425
Nashville, Tenn	1927			5	1,077,000	1	150,000	24	5,150			18	117,600			132	1,804,275
	1928					3	425,000	9	9,780	29	2,285	38	452,200			154	1,537,835
Newark, N. J	1927	2	1,006,161					9	11,232			82	5,043,363	6	81,056	818	10,964,251
	1928	1	38,031	3	13,000	2	735,000	3	1,350	2	9,500	62	768,557			630	4,064,846
New Bedford, Mass	1927							50	10,780			9	35,400			173	181,980
	1928							47	5,110			9	89,900			132	176,000
New Haven, Conn	1927							82	128,327			2	193,500			291	1,822,627
	1928			1	600,000	2	258,000	26	63,000	1	800	3	94,000			217	2,086,300

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 2.—NEW NONRESIDENTIAL BUILDINGS—Continued

City and State	First half of each year	Public buildings		Public works and utilities		Schools, libraries, etc.		Sheds		Stables and barns		Stores, warehouses, etc.		All other		Total	
		Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost
New Orleans, La	1927			1	$476,000	3	$376,000	31	$12,345			46	$264,433	3	$22,500	162	$3,524,844
	1928					4	236,900	54	30,312	2	$6,700	27	198,325	12	5,880	184	1,037,300
New York, N. Y.:																	
The Bronx	1927			2	75,000	4	2,090,000					108	2,503,750			843	19,481,530
	1928					6	2,332,000	1	500			112	3,557,400	2	1,500	1,198	18,142,539
Brooklyn	1927	4	$400,000			4	2,256,000					78	1,760,700	439	589,415	3,466	25,977,955
	1928	8	1,238,000			4	622,000					124	9,029,400	404	506,100	3,132	27,096,920
Manhattan	1927	6	435,000			4	3,830,000					40	8,325,600	14	8,605	345	91,490,455
	1928	9	1,815,500			5	1,610,000					30	6,456,000	23	28,075	490	87,163,880
Queens	1927	7	933,000	11	745,000	13	8,615,700	40	28,966	8	101,450	240	3,083,015	142	54,915	4,245	24,928,671
	1928	4	327,000	5	55,500	5	2,611,000	34	49,300	5	25,150	244	3,513,225	148	66,745	3,798	14,502,873
Richmond	1927	2	30,000			4	531,000	23	7,370	1	150	40	355,300	57	9,735	558	1,226,677
	1928	1	5,000	2	202,000			19	9,715			79	317,977	60	13,291	608	2,159,195
Norfolk, Va	1927			1	500,000			19	2,595	4	255	11	91,109			288	677,877
	1928	1	1,300	4	295,700	1	151,000	24	4,995			7	37,350			283	697,098
Oakland, Calif	1927	1	18,500	8	247,990	11	1,560,356	10	14,040			54	569,480	19	137,377	1,234	4,435,822
	1928	1	7,500	13	263,222	9	900,750	4	2,835			61	3,381,980	9	13,416	864	5,941,527
Oklahoma City, Okla	1927							1	100			32	357,500			631	1,577,300
	1928			1	10,000	13	1,068,383	9	3,500	1	1,800	58	534,575			990	2,435,348
Omaha, Nebr	1927					2	230,000			11	17,995	42	142,405	9	28,500	214	832,085
	1928					1	100,000	14	62,825			53	464,245	4	29,000	261	1,260,086
Paterson, N. J	1927			1	5,000			4	801			19	174,000	1	335	245	503,426
	1928			2	6,000	1	48,579	6	1,700			28	195,725	3	4,200	231	1,627,173
Philadelphia, Pa	1927	4	108,445			8	3,715,450			4	57,000	112	4,133,095	38	296,180	1,137	22,602,730
	1928			1	375,000	13	3,309,190			1	10,000	110	4,241,205	22	110,415	1,056	22,820,700
Pittsburgh, Pa	1927	2	16,000	6	306,000	1	32,000	35	11,995	1	17,220	58	1,798,150	22	55,250	1,124	6,500,352
	1928			4	856,831	10	217,435	11	1,100	1	50	92	1,098,230			948	16,060,132
Portland, Oreg	1927	4	71,400	3	2,409,600	9	723,400	192	169,385			60	758,600			2,085	9,671,700
	1928	6	57,200			3	482,200	179	243,255			35	892,290			1,553	4,798,420
Providence, R. I	1927	1	463,000	1	365,000			45	10,750			35	529,850			548	6,343,315
	1928	2	1,384,364	1	12,000	3	340,000	40	15,350			35	199,200	1	1,000	589	3,017,474
Reading, Pa	1927			1	30,000			19	11,075	1	400	4	159,500	5	8,000	256	1,022,650
	1928					1	78,369	3	350			8	29,450	3	1,800	213	568,109
Richmond, Va	1927					1	11,000	186	43,922			82	646,253			498	1,872,890
	1928					1	571,164	191	53,963			61	567,334			413	1,396,063
Rochester, N. Y	1927			2	117,900	3	1,200,079	48	39,791			24	155,157	7	1,265	1,191	4,021,681
	1928			1	11,500	4	3,025,174	38	17,815	1	200	33	367,975	19	709	936	4,443,622
	1927			1	10,000	6	630,000	500	80,097			115	744,475	1	1,000	2,508	4,715,427
	1928											120	1,595,475			2,510	4,904,045

St. Louis, Mo	1927			1	10,000	6	630,000	500	80,097			115	744,475	1	1,000	2,508	4,715,427
	1928	1	150,000			13	171,600	479	75,775			120	1,595,475			2,510	4,904,045
St. Paul, Minn	1927					2	936,000					17	311,916	182	215,090	940	1,845,124
	1928											14	194,400	183	199,708	843	747,342
Salt Lake City, Utah	1927							7	2,850			23	167,950			104	459,010
	1928							6	21,520			30	193,460	3	8,700	134	466,344
San Antonio, Tex	1927											54	356,654			316	1,735,840
	1928											59	619,686	201	469,979	492	3,742,036
San Diego, Calif	1927					3	47,000	109	22,281			66	518,010	29	4,940	723	2,787,216
	1928	2	18,500	3	435,950			96	21,852	1	750	63	524,015	40	20,000	651	2,239,280
San Francisco, Calif	1927			9	802,695	4	1,029,014	4	1,800			76	1,381,950			236	4,878,823
	1928	2	188,289	4	1,145,000	3	234,289	12	26,950			56	550,000			214	4,818,359
Scranton, Pa	1927			1	90,000	3	313,809	6	5,840	1	2,000	12	62,200			284	2,672,016
	1928					1	270,985	6	7,125			1	235,000			173	899,184
Seattle, Wash	1927			3	22,000	3	930,000	221	33,790			99	1,907,940			1,417	4,363,255
	1928	6	410,500	4	30,500	4	1,003,400	198	31,400	2	700	112	4,937,300			1,198	9,757,875
Somerville, Mass	1927							4	475			11	93,600	3	18,350	128	835,080
	1928							2	1,520			1	70,000			13	79,020
Spokane, Wash	1927	2	9,065					3	525			16	52,061	1	1,600	466	202,491
	1928			3	14,100	1	50,000	46	4,670			36	292,477	15	6,235	486	1,153,384
Springfield, Mass	1927							9	4,395			9	67,600	13	48,314	517	1,239,741
	1928							17	58,475			13	126,800	18	64,250	406	956,579
Syracuse, N. Y	1927	2	121,874			1	300,000	1	500			29	310,675	18	9,020	852	3,081,983
	1928					1	75,000					27	214,250	27	8,625	698	1,410,625
Tacoma, Wash	1927			2	170,000	2	144,000	162	25,660			25	319,000			312	1,037,628
	1928			2	9,000	2	125,000					20	248,975	3	8,500	91	760,975
Tampa, Fla	1927					5	620,865	179	16,683			52	416,975	1	1,150	578	1,365,248
	1928			2	3,900			140	14,100			32	154,075			392	562,575
Toledo, Ohio	1927					5	1,337,303					70	335,945			1,533	3,218,378
	1928	1	125,000	2	70,000	1	478,795					72	1,076,027			1,271	4,893,609
Trenton, N. J	1927							10	13,448	4	3,400	4	9,085			300	1,426,921
	1928			3	155,000	1	73,000	9	10,218	2	400	16	215,360			218	1,359,525
Tulsa, Okla	1927					4	72,500	34	9,942			47	416,885			700	4,048,961
	1928					2	211,000	46	13,600			48	576,200	5	1,940	915	1,836,811
Utica, N. Y	1927									2	3,500	7	84,200			156	343,875
	1928			1	50,000							5	218,200	1	500	132	650,060
Washington, D. C	1927	1	50,778	5	44,000	7	941,027	39	11,235			94	871,450	1	6,680	964	6,154,743
	1928			3	854,239	7	1,205,684	5	475			88	1,057,000	1	1,800	945	6,765,680
Wilmington, Del	1927	1	206,840					1	200	1	900	6	102,345	2	7,000	443	1,480,776
	1928					1	566,111					10	33,830			369	883,399
Worcester, Mass	1927	1	5,400	2	101,000	1	119,354	38	11,653	1	80	7	19,515	15	11,180	388	1,038,487
	1928			5	23,020	2	159,457	34	8,233	1	800	13	75,077	13	10,496	318	907,990
Yonkers, N. Y	1927	3	550,000	2	26,000	1	275,000	6	1,550			25	277,190	6	2,550	380	2,567,291
	1928	1	225,000					6	23,100	3	20,000	16	860,000	18	7,825	362	2,667,872
Youngstown, Ohio	1927			1	600,000	1	10,000	10	1,500	5	750	20	125,000	10	15,000	451	1,392,250
	1928			1	69,000			11	2,165			5	47,500			515	706,393
Total (80 cities)	1927	124	20,003,638	157	12,481,434	244	55,616,179	5,084	1,903,121	79	265,490	4,410	79,353,886	1,695	3,004,252	80,779	514,634,920
(85 cities)	1928	82	9,319,047	150	19,022,342	261	45,688,910	4,372	1,853,628	108	161,967	4,807	98,529,541	1,978	4,436,149	73,490	476,949,950

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 3.—REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS, AND GRAND TOTAL OF ALL PERMITS

City and State	First half of each year	Repairs, etc., on residential buildings [6]				Repairs, etc., on nonresidential buildings [6]		Total repairs, etc.		Grand total of all permits for new construction and repairs, etc.		Rank in cost of construction	Installation permits		Alterations that changed family accommodations	
		Housekeeping dwellings		Nonhousekeeping dwellings												
		Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost		Number	Cost	Families before	Families after
Akron, Ohio	1927							400	$356,035	2,850	$11,153,476		120	$30,999		
	1928							393	968,135	2,744	8,775,435	34	183	35,832		
Albany, N. Y.	1927							987	1,539,386	1,432	6,862,986		120	122,356		
	1928							765	1,443,964	1,158	8,984,754	31				
Atlanta, Ga.	1927							790	860,519	2,113	6,327,366		186	92,125	790	838
	1928							744	1,335,732	2,021	12,355,195	19	141	57,998		60
Baltimore, Md.	1927							7,212	3,090,010	11,159	16,026,610					
	1928							6,562	3,639,650	9,708	17,298,750	17				
Birmingham, Ala.	1927	887	$298,987	1	$63	170	$849,380	1,058	1,148,430	2,993	10,743,976		464	468,411	1	2
	1928	1,120	281,707			197	145,454	1,317	427,161	2,909	8,509,279	35	524	473,904		
Boston, Mass.	1927	2,198	1,524,735	44	68,452	935	3,908,310	3,177	5,501,497	4,873	25,919,520		3,960	3,643,813		
	1928	1,813	1,234,414	54	140,810	865	2,738,341	2,732	4,113,565	4,723	27,671,349	6	4,142	4,082,117		
Bridgeport, Conn.	1927	46	58,360			26	181,190	72	239,550	520	1,941,563		3	2,450		
	1928	87	40,010			89	144,355	176	184,365	547	2,056,684	75	10	2,825		
Buffalo, N. Y.	1927	632	435,432			188	354,480	820	789,912	3,431	14,396,345					
	1928	533	357,291			162	271,400	695	628,691	2,944	12,183,931	21				
Cambridge, Mass.	1927	171	115,925			114	339,321	285	455,246	533	4,158,921					
	1928	162	135,090			108	247,323	270	382,413	509	5,502,643	48				
Camden, N. J.	1927	274	144,033			76	230,755	350	374,788	883	3,022,328					
	1928	249	117,723			69	112,635	318	230,358	699	4,061,493	52				
Canton, Ohio	1927	176	69,555			126	202,890	302	272,445	933	1,894,686		22	8,925		
	1928	197	78,327			93	254,470	290	332,797	813	2,296,714	70	23	3,249		
Chicago, Ill.	1927	1,975	1,617,740			1,468	4,159,610	3,443	5,777,350	14,959	210,210,475		416	1,603,600		
	1928	1,839	1,113,270			1,251	3,425,585	3,090	4,538,855	10,814	184,650,200	2	390	1,752,500		
Cincinnati, Ohio	1927							2,531	2,161,385	4,482	13,518,728		1,361	751,835		
	1928	2,730	757,565			340	1,764,190	3,070	2,521,755	5,073	16,678,055	15	2,784	1,901,870		
Cleveland, Ohio	1927	1,044	754,325			1,484	2,666,800	2,528	3,421,125	6,205	19,827,825					
	1928	958	611,800	5	164,900	1,481	3,942,375	2,444	4,719,075	5,612	27,574,725	7				
Columbus, Ohio	1927	533	464,800	2	30,000	202	786,400	737	1,281,200	3,118	13,189,500				65	133
	1928	449	295,250	1	500	152	474,700	602	770,450	3,172	9,680,300	28			39	90
Dallas, Tex.	1927	622	370,862			595	518,607	1,217	889,469	1,978	4,801,891					
	1928	847	409,466			266	414,309	1,113	823,775	1,920	4,048,935	54	154	91,908		
Dayton, Ohio	1927	234	160,047			218	1,029,063	452	1,189,110	1,647	5,891,811				30	60
	1928	356	187,479			182	499,128	538	686,607	1,389	6,983,082	39			26	52
Denver, Colo.	1927							1,904	985,900	3,733	6,836,700		76	51,050		

Dayton, Ohio	1927	234	160,047			218	1,029,063	452	1,189,110	1,647	5,891,811				30	60
	1928	356	187,479			182	499,128	538	686,607	1,389	6,983,082	39			26	52
Denver, Colo	1927							1,904	985,900	3,733	6,836,700		76	51,050		
	1928							1,739	808,850	3,195	8,982,800	32				
Des Moines, Iowa	1927	98	86,640			30	44,190	128	130,830	578	1,443,071					
	1928	121	61,211			53	132,535	174	193,746	647	2,832,447	62				
Detroit, Mich	1927							3,766	8,357,234	14,899	78,742,327					263
	1928							3,399	4,292,501	14,510	65,175,361	3				230
Duluth, Minn	1927	608	214,109			112	430,565	720	644,674	1,150	2,321,614		128	25,880		
	1928	666	224,703			119	189,562	785	414,265	1,077	1,834,704	77	80	26,875		
El Paso, Tex	1927	230	200,125			48	66,000	278	266,125	414	483,530					
	1928							310	196,589	553	963,061	81				
Fall River, Mass	1927	107	90,932			69	98,261	176	189,193	445	1,276,167				3	47
	1928	72	51,500			81	79,290	153	130,790	315	822,281	82			2	8
Flint, Mich	1927							1,395	604,470	4,375	11,907,927		243	624		
	1928	986	343,884			342	192,675	1,328	536,559	3,409	6,707,359	43	1,702	2,928		
Fort Wayne, Ind	1928	170	105,007			65	271,487	235	376,494	861	2,215,971	71				
Fort Worth, Tex	1927							1,254	3,652,320	3,349	14,625,360					
	1928	845	483,576	231	82,130	196	90,462	1,272	656,168	2,844	9,327,435	29				
Grand Rapids, Mich	1927	1,347	361,560			148	336,085	1,495	697,645	3,034	4,678,860		101	27,205	1,347	1,466
	1928	1,286	317,445			192	688,330	1,478	1,005,775	2,753	4,350,470	51	224	40,025		
Hartford, Conn	1927	340	174,756			242	648,175	582	822,931	1,139	7,621,430					
	1928	342	211,398			206	806,020	548	1,017,418	1,001	5,945,547	46	230	142,681		
Houston, Tex	1927	250	177,311			779	129,947	1,029	307,258	3,244	14,548,052					
	1928	863	162,877			47	94,620	910	257,497	3,415	18,695,541	14				
Indianapolis, Ind	1927							866	418,461	3,595	12,626,740		241	120,890		
	1928							2,813	1,210,527	5,234	11,093,174	23	336	402,699		
Jacksonville, Fla	1928	525	233,620			243	168,685	768	402,305	1,903	4,645,680	49	316	55,986		27
Jersey City, N. J	1927	45	184,000			369	403,105	414	587,105	843	5,369,453		8	33,300		
	1928	57	193,900			317	282,255	374	476,155	676	6,105,073	45	14	80,400		
Kansas City, Kans	1927							321	77,178	638	1,020,378					
	1928							222	53,025	556	971,795	80				
Kansas City, Mo	1927	354	274,675			192	674,765	546	949,440	1,740	8,800,590		138	28,475	23	115
	1928	231	176,700	58	$53,600	181	206,125	470	436,425	1,370	8,404,100	36	289	131,600		
Knoxville, Tenn	1928	344	77,298			136	102,063	480	179,361	1,154	3,346,358	58	26	11,124		
Long Beach, Calif	1928	379	168,820			282	210,735	661	379,555	2,451	6,875,235	40	315	39,005		
Los Angeles, Calif	1927							6,387	8,067,823	18,512	58,192,977					
	1928							6,433	5,217,691	17,392	52,002,570	5				
Louisville, Ky	1927	425	150,200			110	809,015	535	959,215	1,813	14,054,100		5,362	1,514,085		
	1928	97	53,825	2	105,000	378	1,010,920	477	1,169,745	1,683	9,017,055	30	5,309	1,492,089		
Lowell, Mass	1927	153	49,020			102	119,405	255	168,425	424	487,110					
	1928	152	72,710			70	90,545	222	163,255	324	408,940	84				
Lynn, Mass	1927	176	138,985			138	120,466	314	259,451	606	2,046,455					
	1928	199	169,500			77	421,540	276	591,040	612	2,070,663	74				
Memphis, Tenn	1927							950	842,270	2,175	7,723,800		450	884,000		
	1928							1,082	1,109,750	2,275	7,589,045	37	500	573,233		
Miami, Fla	1928	253	222,355	9	2,650	191	118,778	453	343,783	889	1,258,824	79	427	75,689		
Milwaukee, Wis	1927							1,167	2,130,173	4,491	20,765,996		12,388	4,208,886		
	1928							1,192	1,863,858	3,781	13,417,507	18	11,909	4,824,395		
Minneapolis, Minn	1927							1,228	1,323,075	3,517	12,480,310					
	1928							1,274	1,762,170	3,318	10,165,375	24				

[1928]

* For years in which figures are not shown total repairs, etc., only were reported.

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 3.—REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS, AND GRAND TOTAL OF ALL PERMITS—Continued

City and State	First half of each year	Repairs, etc., on residential buildings				Repairs, etc., on nonresidential buildings		Total repairs, etc.		Grand total of all permits for new construction and repairs, etc.		Rank in cost of construction	Installation permits		Alterations that changed family accommodations	
		Housekeeping dwellings		Nonhousekeeping dwellings												
		Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost		Number	Cost	Families before	Families after
Nashville, Tenn	1927							520	$261,262	938	$3,598,887		134	$20,335		
	1928							524	266,582	1,007	3,090,222	61	169	143,213		
Newark, N. J	1927	461	$776,248			213	$1,534,955	674	2,311,203	2,008	27,192,304		751	604,597		
	1928	388	703,926			200	2,771,952	588	3,475,878	1,540	18,643,297	16	634	1,675,599		
New Bedford, Mass	1927	230	121,695			27	84,300	257	205,995	484	753,675					
	1928	146	99,720			79	104,725	225	204,445	379	568,745	83				
New Haven, Conn	1927	110	180,000			271	363,000	381	543,000	761	3,475,627		236	22,000		22
	1928	141	155,000			198	362,000	339	517,000	648	4,001,800	55	159	63,000		
New Orleans, La	1927	105	343,800			197	510,890	302	854,690	1,051	7,960,819					
	1928	423	789,965			308	1,076,068	731	1,866,033	1,615	5,835,826	47				
New York, N. Y.:																
The Bronx	1927	331	768,555			3,126	4,183,843	3,457	4,952,398	6,389	104,793,228					
	1928	246	724,250			2,905	2,962,725	3,151	3,686,975	6,106	122,816,699		1,357	480,320		
Brooklyn	1927	2,412	2,875,915	43	$73,900	915	4,612,300	3,370	7,562,115	12,249	117,873,370		$ 3,383	1,747,703		
	1928	2,264	3,186,890	25	2,079,900	873	3,631,945	3,162	8,898,735	9,889	111,492,155		$			
Manhattan	1927	715	4,389,290	145	2,425,450	820	11,476,937	1,680	18,291,677	2,128	153,464,132		$			
	1928	754	4,032,832	187	10,778,760	649	8,901,705	1,590	23,713,297	2,261	223,154,177	1	$			
Queens	1927	1,720	1,083,266			430	2,720,146	2,150	3,803,412	14,835	108,099,933		1,027	830,733		
	1928	1,091	645,280			486	2,055,095	1,577	2,700,375	12,138	92,285,118		$			
Richmond	1927	286	268,555			182	276,914	468	545,469	1,844	5,888,925		$ 28	9,150		
	1928	275	196,655			186	171,828	461	368,483	1,819	7,813,742		$			
Norfolk, Va	1927	190	111,070			103	184,032	293	295,102	762	2,114,954		189	29,556	34	57
	1928	177	93,415			99	117,880	276	211,295	742	2,537,293	67	206	30,083	27	72
Oakland, Calif	1927							1,621	1,529,733	3,912	10,928,362		439	193,989		
	1928							1,066	984,109	2,541	11,437,519	22	563	89,333		
Oklahoma City, Okla	1927	197	171,148			65	275,971	262	447,119	1,555	5,091,379		43	11,777		
	1928	209	116,185	2	6,000	74	516,982	285	639,167	2,474	7,472,955	38	49	9,777		
Omaha, Nebr	1927	41	32,238			52	242,225	93	274,463	512	2,324,268					
	1928	76	48,202			66	275,880	142	324,082	578	2,704,468	64				
Paterson, N. J	1927							797	580,583	1,292	3,386,125		23	9,450		
	1928							755	366,949	1,125	3,154,285	60	11	2,140		
Philadelphia, Pa	1927	3,125	1,845,970			1,040	5,538,015	4,165	7,383,985	10,290	61,683,600		134	57,490		
	1928											4				

Philadelphia, Pa	1927	3,125	1,845,970			1,040	5,538,015	4,165	7,383,985	10,290	61,683,600		134	57,490		
	1928	2,468	2,883,240			866	4,324,860	3,334	7,208,100	9,279	63,195,840	4	157	48,165		
Pittsburgh, Pa	1927	1,407	1,020,041	12	46,850	488	1,868,607	1,907	2,935,498	4,129	17,952,156					47
	1928	1,494	1,029,339	79	365,470	290	1,097,123	1,863	2,491,932	3,769	25,101,750	8				
Portland, Oreg	1927	1,828	622,015			481	695,640	2,309	1,317,655	5,880	20,129,115					
	1928	1,860	714,410			554	850,800	2,414	1,565,210	5,049	12,240,640	20				
Providence, R. I	1927	1,353	533,575			260	1,144,225	1,613	1,677,800	2,575	12,140,215		1,152	167,970		
	1928	1,225	640,120			306	930,425	1,531	1,570,545	2,510	8,946,219	33				
Reading, Pa	1927	762	342,730			165	169,625	927	512,355	1,295	2,646,005		24	7,975		
	1928	656	201,190	2	4,600	127	234,268	785	440,058	1,140	1,822,217	78	28	10,839		
Richmond, Va	1927	285	133,036	5	10,260	200	474,096	490	617,392	1,382	5,435,260					
	1928	278	146,421	4	2,390	224	459,944	506	608,755	1,290	4,351,949	50				
Rochester, N. Y	1927	511	419,212	1	31,000	497	743,845	1,009	1,194,057	2,944	10,950,008				62	125
	1928	407	314,645			426	481,384	833	796,029	2,285	9,981,355	26				
St. Louis, Mo	1927	1,059	451,235	12	24,130	630	1,351,785	1,701	1,827,150	5,503	15,261,252		690	207,461		
	1928	1,972	1,027,560	19	104,868	663	1,699,228	2,654	2,831,656	6,831	21,562,051	12				
St. Paul, Minn	1927	990	361,350			232	369,702	1,222	731,052	2,615	5,808,088		104	38,832		
	1928	798	192,940			520	648,000	1,318	840,940	2,485	3,711,748	57	24	24,032		
Salt Lake City, Utah	1927	91	70,365			49	143,120	140	213,485	541	2,676,505					
	1928	113	74,850			93	184,483	206	259,333	618	2,118,987	72				
San Antonio, Tex	1927							234	251,625	1,376	6,155,458					
	1928							708	810,165	2,414	9,715,144	27				
San Diego, Calif	1927							1,202	651,532	3,277	8,146,257		380	98,388		
	1928							1,209	453,928	2,738	6,848,619	42	400	113,551		
San Francisco, Calif	1927	906	847,869			600	1,400,000	1,506	2,247,869	3,721	25,082,131		1,200	200,000		
	1928	1,163	777,438	13	83,766	249	1,116,144	1,425	1,977,348	3,179	18,860,311	13	624	136,671		
Scranton, Pa	1927							214	272,240	617	3,586,106		300	550		
	1928							358	516,265	619	2,113,509	73				
Seattle, Wash	1927							2,175	1,808,955	5,342	16,447,910					
	1928							2,366	2,414,425	5,080	23,389,825	10				
Somerville, Mass	1927	182	79,540			49	173,790	231	253,330	435	2,132,680				33	54
	1928	33	10,040			2	3,000	35	13,040	60	308,060	85			3	5
Spokane, Wash	1927	248	83,690	1	250	78	86,648	327	170,588	1,077	1,490,779					
	1928	291	124,161	2	1,000	115	422,090	408	547,251	1,170	2,762,985	63				
Springfield, Mass	1927							223	940,920	1,065	5,092,461					
	1928	71	79,962	3	68,550	119	326,313	193	474,825	883	3,756,854	56				
Syracuse, N. Y	1927	416	306,065	15	112,500	241	495,761	672	914,326	2,152	9,108,709		2	950	52	87
	1928	259	244,485	1	8,000	122	385,465	382	637,950	1,584	6,646,775	44				
Tacoma, Wash	1927							628	321,480	1,355	2,853,778					
	1928							593	372,560	1,023	2,607,085	65				
Tampa, Fla	1927	1,012	250,560			478	208,126	1,490	458,686	2,516	2,903,889		54	8,057		
	1928	913	171,405			334	119,390	1,247	290,795	2,038	1,952,350	76	71	6,060		
Toledo, Ohio	1927	745	509,013			183	936,728	928	1,445,741	3,318	8,756,394				75	192
	1928							528	1,661,995	2,563	10,079,104	25				
Trenton, N. J	1927	253	275,789			50	163,133	303	438,922	808	3,106,543					
	1928	158	70,673			85	368,440	243	439,113	568	2,395,838	68	1	5,000		
Tulsa, Okla	1927	278	168,373			114	105,102	392	273,475	1,570	7,107,621		1	5,000		
	1928	312	160,913			86	120,080	398	280,993	2,030	6,862,109	41				
Utica, N. Y	1927	31	54,250			41	143,500	72	197,750	350	1,342,325					
	1928	84	94,245	4	2,765	25	56,820	113	153,830	369	2,305,040	69				
Washington, D. C	1927							1,479	2,206,269	3,568	22,528,842		452	488,500		
	1928							1,456	1,417,217	3,181	23,735,997	9	550	462,495		

TABLE 7.—NUMBER AND ESTIMATED COST OF BUILDINGS (NEW CONSTRUCTION, AND REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS) COVERED BY PERMITS ISSUED IN THE FIRST HALF OF 1927 AND OF 1928, BY INTENDED USE OF BUILDINGS—Continued

PART 3.—REPAIRS, ALTERATIONS, AND ADDITIONS TO OLD BUILDINGS, AND GRAND TOTAL OF ALL PERMITS—Continued

City and State	First half of each year	Repairs, etc., on residential buildings				Repairs, etc., on nonresidential buildings		Total repairs, etc.		Grand total of all permits for new construction and repairs, etc.		Rank in cost of construction	Installation permits		Alterations that changed family accommodations	
		Housekeeping dwellings		Nonhousekeeping dwellings												
		Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost		Number	Cost	Families before	Families after
Wilmington, Del	1927							348	$503, 691	977	$3, 292, 914		112	$106, 476		
	1928							394	570, 084	940	2, 570, 806	66	68	35, 672		
Worcester, Mass	1927	239	$145, 779			270	$1, 059, 317	509	1, 205, 096	1, 256	5, 202, 773					
	1928	227	187, 621			258	439, 348	485	626, 969	1, 013	3, 340, 134	59				
Yonkers, N. Y	1927	105	186, 030			99	553, 422	204	739, 452	1, 034	15, 585, 028					
	1928	99	166, 575			105	373, 245	204	539, 820	1, 059	22, 238, 892	11				
Youngstown, Ohio	1927	123	75, 000			40	120, 000	163	195, 000	1, 178	4, 887, 950					
	1928							156	339, 290	1, 149	4, 053, 918	53				
Total (80 cities)	1927							97, 179	138, 154, 250	263, 689	1, 524, 389, 694		36, 645	18, 485, 848	2, 551	3, 508
(85 cities)	1928							97, 864	134, 366, 471	248, 731	1, 551, 120, 307		35, 099	19, 636, 882	97	544

Housing Situation in Iquique, Chile

THE housing situation in Iquique, a Chilean seaport town and capital of Tarapaca Province, is described by Don Luis Caballero, a Province officer in Chile, and is summarized in a report from the American consul, Robert R. Bradford, at Iquique, dated July 21, 1928.

The writer states that the housing conditions are deplorable and cites the fact that 17,750 persons (of whom 5,102 are men, 5,631 women, and the rest children) are living in 3,793 houses having 7,017 rooms. This is an average of somewhat more than 2.5 persons per room. Moreover, of the 3,793 houses, 2,904 were rated as insanitary and 651 as uninhabitable and yet the workers are paying rent varying from 20 to 120 Chilean pesos [1] a month for them. Only 1,352 of these houses have water, and only 1,430 have sewer connections, of which number 1,224 have no water.

As to the 149 tenements in Iquique, 97 were rated as insanitary and 45 as uninhabitable, but 3,921 persons are housed therein (1,469 men, 1,206 women, and 1,246 children).

The report was concluded with a recommendation to the Government to build sanitary and modern houses for the working people and stressed the urgent need therefor "as a means of combating infant mortality and the high death rate from tuberculosis."

[1] Peso at par=12.17 cents, exchange rate about par.

TREND OF EMPLOYMENT

Employment in Selected Manufacturing Industries in August, 1928

EMPLOYMENT in manufacturing industries *increased* 1.5 per cent in August as compared with July, and pay-roll totals *increased* 3.2 per cent, according to returns made to the Bureau of Labor Statistics.

Increased employment in August is a usual occurrence, owing to the completion of July inventory taking and repairs, but this increase in August, 1928, is significantly greater than in any one of the last five years, and there was actually a falling off in employment in August, 1923. A greater number of separate industries reported increased employment in August, 1928, than in any month since October, 1925.

The Bureau of Labor Statistics' weighted index of employment for August, 1928, is 86, as compared with 84.7 for July, 1928, 85.6 for June, 1928, and 87.4 for August, 1927; the weighted index of pay-roll totals for August, 1928, is 90.2, as compared with 87.4 for July, 1928, 90.2 for June, 1928, and 91 for August, 1927. The monthly average for 1923 equals 100.

The index of employment for August, 1928, is higher than at any time since October, 1927, with the exception of March, 1928, when the index was one-tenth of 1 per cent higher than in August.

Employment in August, 1928, stood 1.6 per cent below the level of employment in August, 1927, and pay-roll totals were 0.9 per cent smaller. The decreases in both these items, comparing 1928 with 1927, were decidedly smaller in August than in any previous month of 1928.

The data for August, 1928, are based on returns made by 11,097 establishments in 54 of the principal manufacturing industries of the United States. These establishments in August had 3,111,655 employees, whose combined earnings in one week were $84,249,130.

Comparison of Employment and Pay-Roll Totals in July and August, 1928

INCREASED employment was shown in August, 1928, as compared with July, in 40 of the 54 separate industries and increased pay-roll totals were shown in 43 industries.

The notable increases in employment were in the men's and women's clothing industries, and in the millinery, stove, steam fittings, fertilizer, pottery, tobacco, piano, carriage, and automobile industries. The last-named industry reported gains of 6.3 per cent in employment and of 11.4 per cent in pay-roll totals in continuation of its phenomenal activities since November, 1927.

The outstanding decreases in employment were in the slaughtering and meat packing, cotton goods, rubber boot and shoe, shipbuilding, and machine tool industries. The decrease in machine tools, however, was due to a regular summer letting-up of production

in a few establishments and was, in fact, only about one-half as pronounced as in previous years.

Increased employment was shown in all industries of the *textile group* except cotton goods and shirts, and in all industries of the *iron and steel group* except cast-iron pipe (0.1 per cent) and machine tools. The *iron and steel industry* gained 1.3 per cent in employment, woolen goods 2.4 per cent, and petroleum 1.3 per cent, while cotton goods fell off 1.4 per cent.

Eleven of the twelve groups of industries showed gains in employment in August as compared with July, ranging from 7.4 per cent in the tobacco group to 0.2 per cent in the paper and printing group; the food group showed a loss of one-half of 1 per cent in number of employees.

Seven of the nine geographic divisions had more employees in August than in July, the East Central divisions—both the North and the South—leading in this respect with gains of 3.6 per cent each, followed by the South Atlantic division with a gain of 2.7 per cent; the West North Central and the Mountain divisions both reported moderate losses in employment.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL ESTABLISHMENTS DURING **ONE WEEK** EACH IN JULY AND AUGUST, 1928

Industry	Establishments	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		July, 1928	August, 1928		July, 1928	August, 1928	
Food and kindred products	**1,718**	**220,645**	**219,426**	(1)	**$5,756,924**	**$5,658,261**	(1)
Slaughtering and meat packing	194	86,122	84,181	−2.3	2,257,461	2,153,369	−4.6
Confectionery	303	29,745	30,852	+3.7	540,633	568,313	+5.1
Ice cream	230	11,638	11,411	−2.0	407,415	392,301	−3.7
Flour	336	15,343	15,925	+3.8	416,307	431,916	+3.7
Baking	640	66,836	65,999	−1.3	1,802,141	1,775,450	−1.5
Sugar refining, cane	15	10,961	11,058	+0.9	332,967	336,912	+1.2
Textiles and their products	**1,857**	**550,848**	**554,212**	(1)	**10,393,564**	**10,660,800**	(1)
Cotton goods	455	201,213	198,461	−1.4	3,011,968	2,937,847	−2.5
Hosiery and knit goods	234	74,320	75,157	+1.1	1,320,570	1,395,635	+5.7
Silk goods	190	52,039	52,526	+0.9	1,069,605	1,125,161	+5.2
Woolen and worsted goods	186	59,578	60,995	+2.4	1,295,465	1,331,588	+2.8
Carpets and rugs	31	22,474	22,657	+0.8	537,690	562,555	+4.6
Dyeing and finishing textiles	95	29,999	30,240	+0.8	701,342	720,243	+2.7
Clothing, men's	293	61,924	63,907	+3.2	1,472,392	1,526,604	+3.7
Shirts and collars	100	18,660	18,373	−1.5	279,113	289,007	+3.5
Clothing, women's	203	20,944	21,633	+3.3	493,510	531,406	+7.7
Millinery and lace goods	70	9,697	10,263	+5.8	211,909	240,754	+13.6
Iron and steel and their products	**1,808**	**644,421**	**653,258**	(1)	**18,813,197**	**19,636,115**	(1)
Iron and steel	199	262,423	265,945	+1.3	7,774,967	8,298,369	+6.7
Cast-iron pipe	36	12,133	12,124	−0.1	279,098	271,580	−2.7
Structural ironwork	160	24,576	25,595	+4.1	728,946	768,986	+5.5
Foundry and machine-shop products	982	237,291	238,379	+0.5	7,015,373	7,155,928	+2.0
Hardware	70	30,259	31,452	+3.9	741,160	774,992	+4.6
Machine tools	143	30,556	28,909	−5.4	961,714	936,381	−2.6
Steam fittings and steam and hot-water heating apparatus	104	29,927	32,184	+7.5	855,277	934,491	+9.3
Stoves	114	17,256	18,670	+8.2	456,662	495,388	+8.5
Lumber and its products	**1,150**	**213,404**	**218,479**	(1)	**4,670,105**	**4,841,192**	(1)
Lumber, sawmills	466	123,302	125,937	+2.1	2,553,204	2,599,905	+1.8
Lumber, millwork	264	32,168	32,540	+1.2	773,728	787,133	+1.7
Furniture	420	57,934	60,002	+3.6	1,343,173	1,454,154	+8.3
Leather and its products	**341**	**112,911**	**115,231**	(1)	**2,587,974**	**2,748,483**	(1)
Leather	127	26,166	26,280	+0.4	643,828	645,647	+0.3
Boots and shoes	214	86,745	88,951	+2.5	1,944,146	2,102,836	+8.2

(See footnotes at end of table)

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL ESTABLISHMENTS DURING **ONE WEEK** EACH IN JULY AND AUGUST, 1928—Continued

Industry	Establishments	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		July, 1928	August, 1928		July, 1928	August, 1928	
Paper and printing	**917**	**176,243**	**176,749**	(1)	**5,734,530**	**5,750,047**	(1)
Paper and pulp	209	56,472	56,955	+0.9	1,467,922	1,512,872	+3.1
Paper boxes	184	18,774	18,875	+0.5	415,439	422,427	+1.7
Printing, book and job	313	50,930	51,117	+0.4	1,806,387	1,794,120	−0.7
Printing, newspapers	211	50,067	49,802	−0.5	2,044,782	2,020,628	−1.2
Chemicals and allied products	**342**	**83,895**	**85,042**	(1)	**2,525,570**	**2,559,156**	(1)
Chemicals	127	30,967	30,944	−0.1	846,018	850,714	+0.6
Fertilizers	158	7,574	8,165	+7.8	158,850	167,109	+5.2
Petroleum refining	57	45,354	45,933	+1.3	1,520,702	1,541,333	+1.4
Stone, clay, and glass products	**903**	**122,159**	**125,837**	(1)	**3,118,690**	**3,286,353**	(1)
Cement	108	27,340	27,779	+1.6	818,247	825,313	+0.9
Brick, tile, and terra cotta	600	42,679	42,782	+0.2	1,051,229	1,071,753	+2.0
Pottery	68	12,985	14,099	+8.6	291,134	349,109	+19.9
Glass	127	39,155	41,177	+5.2	958,080	1,040,178	+8.6
Metal products, other than iron and steel	**216**	**49,161**	**49,925**	(1)	**1,291,924**	**1,386,898**	(1)
Stamped and enameled ware	67	17,708	18,017	+1.7	403,073	439,323	+9.0
Brass, bronze, and copper products	149	31,453	31,908	+1.4	888,851	947,575	+6.6
Tobacco products	**262**	**59,885**	**64,412**	(1)	**1,013,046**	**1,058,920**	(1)
Chewing and smoking tobacco and snuff	29	7,746	8,198	+5.8	123,247	130,075	+5.5
Cigars and cigarettes	233	52,139	56,214	+7.8	889,799	928,845	+4.4
Vehicles for land transportation	**1,194**	**572,564**	**597,864**	(1)	**17,745,721**	**19,250,500**	(1)
Automobiles	211	410,103	435,777	+6.3	13,037,705	14,518,424	+11.4
Carriages and wagons	58	1,566	1,731	+10.5	37,117	39,418	+6.2
Car building and repairing, electric-railroad	365	22,753	22,543	−0.9	708,921	707,754	−0.2
Car building and repairing, steam-railroad	560	138,142	137,813	−0.2	3,961,978	3,984,904	+0.6
Miscellaneous industries	**389**	**245,907**	**251,220**	(1)	**7,202,915**	**7,412,405**	(1)
Agricultural implements	79	25,242	25,125	−0.5	744,111	760,436	+2.2
Electrical machinery, apparatus and supplies	169	114,264	118,938	+4.1	3,370,708	3,512,880	+4.2
Pianos and organs	42	6,147	6,837	+11.2	175,535	198,097	+12.9
Rubber boots and shoes	12	17,849	17,125	−4.1	411,033	395,888	−3.7
Automobile tires	49	59,068	60,438	+2.3	1,818,942	1,893,011	+4.1
Shipbuilding	38	23,337	22,757	−2.5	682,586	652,093	−4.5
All industries	**11,097**	**3,052,043**	**3,111,655**	(1)	**80,854,160**	**84,249,130**	(1)

RECAPITULATION BY GEOGRAPHIC DIVISIONS

GEOGRAPHIC DIVISION							
New England [2]	1,356	367,483	368,256	+0.2	$8,920,697	$8,965,197	+0.5
Middle Atlantic [3]	2,581	796,133	801,748	+0.7	22,209,362	22,781,704	+2.6
East North Central [4]	2,987	1,087,096	1,125,983	+3.6	31,982,610	34,308,554	+7.3
West North Central [5]	1,018	159,128	158,785	−0.2	4,044,024	4,074,367	+0.8
South Atlantic [6]	1,285	296,100	304,043	+2.7	5,557,781	5,784,689	+4.1
East South Central [7]	552	111,365	115,373	+3.6	2,114,885	2,201,118	+4.1
West South Central [8]	434	81,595	82,296	+0.9	1,747,656	1,788,498	+2.3
Mountain [9]	202	30,391	30,127	−0.9	822,608	822,033	−0.1
Pacific [10]	682	122,752	125,044	+1.9	3,454,537	3,522,970	+2.0
All divisions	**11,097**	**3,052,043**	**3,111,655**	(1)	**80,854,160**	**84,249,130**	(1)

[1] The per cent of change has not been computed for the reason that the figures in the preceding columns are unweighted and refer only to the establishments reporting; for the weighted per cent of change, whereby proper allowance is made for the relative importance of the several industries, so that the figures may represent all establishments of the country in the industries here represented, see Table 2.

[2] Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.

[3] New Jersey, New York, Pennsylvania.

[4] Illinois, Indiana, Michigan, Ohio, Wisconsin.

[5] Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota.

[6] Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia.

[7] Alabama, Kentucky, Mississippi, Tennessee.

[8] Arkansas, Louisiana, Oklahoma, Texas.

[9] Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Utah, Wyoming.

[10] California, Oregon, Washington.

TABLE 2.—PER CENTS OF CHANGE, JULY TO AUGUST, 1928—12 GROUPS OF INDUSTRIES AND TOTAL OF ALL INDUSTRIES

[Computed from the index numbers of each group, which are obtained by weighting the index numbers of the several industries of the group, by the number of employees, or wages paid, in the industries]

Group	Per cent of change, July to August, 1928		Group	Per cent of change, July to August, 1928	
	Number on pay roll	Amount of pay roll		Number on pay roll	Amount of pay roll
Food and kindred products	−0.5	−1.6	Metal products, other than iron and steel	+1.6	+7.1
Textiles and their products	+1.0	+3.3	Tobacco products	+7.4	+4.6
Iron and steel and their products	+1.2	+4.2	Vehicles for land transportation	+3.3	+6.1
Lumber and its products	+2.3	+3.0	Miscellaneous industries	+0.7	+0.2
Leather and its products	+1.9	+5.7			
Paper and printing	+0.2	+0.3	**All industries**	**+1.5**	**+3.2**
Chemical and allied products	+1.4	+1.4			
Stone, clay, and glass products	+3.4	+6.7			

Comparison of Employment and Pay-Roll Totals in August, 1928, and August, 1927

THE level of employment in manufacturing industries in August, 1928, was 1.6 per cent lower than in August, 1927, and pay-roll totals were 0.9 per cent lower.

The outstanding increases in employment in separate industries over this 12-month interval were: 31.2 per cent in automobiles, 18.8 per cent in agricultural implements, 17.7 per cent in machine tools, 8.8 per cent in automobile tires, 6.6 per cent in pottery, and 5.9 per cent in glass.

The outstanding decreases in employment in August, 1928, as compared with August, 1927, were: 19.4 per cent in shipbuilding, 15 per cent in cotton goods, 14.2 per cent in pianos, 10.6 per cent in cast-iron pipe, 9.1 per cent each in brick and cane sugar refining, 8.8 per cent in electric-railroad car shops, 8.2 per cent in steam fittings, 8.1 per cent in confectionery, 7.7 per cent in petroleum refining, 7.5 per cent in cement, 7.2 per cent in men's clothing, 7.1 per cent in boots and shoes, and 6.6 per cent in steam-railroad car shops.

Four groups of industries showed improvement in employment in August, 1928, as compared with August, 1927—the vehicle, tobacco, iron and steel, and nonferrous metal.

The East North Central geographic division showed a gain of 10.5 per cent in employees in August, 1928, as compared with August, 1927, but each of the remaining eight divisions showed a smaller number of employees. The New England division showed a decrease of 7.9 per cent, the Middle Atlantic division a decrease of 5 per cent, while the remaining divisions showed decreases of from 3.3 per cent to 1.3 per cent.

TABLE 3.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS, AUGUST, 1928, WITH AUGUST, 1927

[The per cents of change for each of the 12 groups of industries and for the total of all industries are weighted in the same manner as are the per cents of change in Table 2]

Industry	Per cent of change August, 1928, compared with August, 1927		Industry	Per cent of change August, 1928, compared with August, 1927	
	Number on pay roll	Amount of pay roll		Number on pay roll	Amount of pay roll
Food and kindred products	**−2.4**	**−1.6**	**Chemicals and allied products**	**−3.4**	**−2.0**
Slaughtering and meat packing	−1.4	−2.3	Chemicals	−1.9	−1.2
Confectionery	−8.1	−8.3	Fertilizers	+3.3	+2.0
Ice cream	+2.2	+4.4	Petroleum refining	−7.7	−4.2
Flour	+0.1	+3.9			
Baking	−1.3	−1.1	**Stone, clay, and glass products**	**−1.5**	**−1.0**
Sugar refining, cane	−9.1	−4.6	Cement	−7.5	−6.8
			Brick, tile, and terra cotta	−9.1	−10.5
Textiles and their products	**−7.3**	**−10.3**	Pottery	+6.6	+3.7
Cotton goods	−15.0	−22.8	Glass	+5.9	+8.7
Hosiery and knit goods	−5.1	−5.8			
Silk goods	−4.1	(1)	**Metal products, other than iron and steel**	**+0.9**	**+7.8**
Woolen and worsted goods	−4.2	−7.5	Stamped and enameled ware	+2.2	+0.6
Carpets and rugs	−4.2	−12.7	Brass, bronze, and copper products	+0.3	+10.3
Dyeing and finishing textiles	−3.1	−4.5			
Clothing, men's	−7.2	−11.0	**Tobacco products**	**+5.6**	**+1.9**
Shirts and collars	−5.9	−10.6	Chewing and smoking tobacco and snuff	−4.4	−3.8
Clothing, women's	+1.6	−1.9	Cigars and cigarettes	+7.2	+2.7
Millinery and lace goods	−4.9	−5.0			
			Vehicles for land transportation	**+10.1**	**+10.1**
Iron and steel and their products	**+0.4**	**+3.6**	Automobiles	+31.2	+35.6
Iron and steel	−0.6	+4.8	Carriages and wagons	+5.0	+2.5
Cast-iron pipe	−10.6	−18.2	Car building and repairing, electric-railroad	−8.8	−7.0
Structural ironwork	+1.8	+1.1	Car building and repairing, steam-railroad	−6.6	−9.8
Foundry and machine-shop products	(1)	+2.8			
Hardware	+1.2	+1.1	**Miscellaneous industries**	**−5.5**	**−5.7**
Machine tools	+17.7	+25.0	Agricultural implements	+18.8	+24.1
Steam fittings and steam and hot-water heating apparatus	−8.2	−8.2	Electrical machinery, apparatus, and supplies	+0.9	+1.5
Stoves	−0.9	−9.3	Pianos and organs	−14.2	−14.9
			Rubber boots and shoes	−0.4	−7.7
Lumber and its products	**−4.0**	**−4.9**	Automobile tires	+8.8	+11.2
Lumber, sawmills	−4.3	−4.5	Shipbuilding	−19.4	−18.8
Lumber, millwork	−2.0	−4.5			
Furniture	−4.3	−6.2	**All industries**	**−1.6**	**−0.9**
Leather and its products	**−5.8**	**−9.2**			
Leather	−1.7	−4.0			
Boots and shoes	−7.1	−11.2			
Paper and printing	**−0.7**	**+0.1**			
Paper and pulp	−3.2	−1.7			
Paper boxes	−4.8	−2.4			
Printing, book and job	+0.4	+0.1			
Printing, newspapers	+1.9	+2.2			

[1] No change.

RECAPITULATION BY GEOGRAPHIC DIVISIONS

Geographic division			Geographic division		
New England	−7.9	−8.9	West South Central	−3.3	−1.7
Middle Atlantic	−5.0	−3.6	Mountain	−2.3	−1.1
East North Central	+10.5	+13.8	Pacific	−1.3	−0.6
West North Central	−1.7	−0.2			
South Atlantic	−2.6	−1.9	**All divisions**	**−1.6**	**−0.9**
East South Central	−2.7	−3.0			

Per Capita Earnings

PER CAPITA earnings in August, 1928, for employees in the combined 54 industries surveyed were 1.6 per cent higher than in July, 1928, and 0.8 per cent higher than in August, 1927.

Increases in per capita earnings in August, 1928, as compared with July, 1928, were shown in 38 of the 54 separate industries, the notable increases having been in the pottery (10.4 per cent), millinery, stamped ware, boot and shoe, iron and steel (5.3 per cent), brass, shirt, automobile (4.8 per cent), furniture, hosiery, women's clothing, and silk (4.2 per cent) industries. The greatest decreases were in the carriage (3.9 per cent), cigar, cast-iron pipe, slaughtering and meat packing, fertilizer, and shipbuilding (2.1 per cent) industries.

Employees in 23 industries were averaging higher earnings per week in August, 1928, than in August, 1927, the greatest gains over this 12-month period having been in the brass, iron and steel, machine tool, sugar, agricultural implement, and silk industries. The pronounced decreases were in the cotton goods, cast-iron pipe, carpet, stove, and rubber boot and shoe industries.

TABLE 4.—COMPARISON OF PER CAPITA EARNINGS, AUGUST 1928, WITH JULY, 1928, AND AUGUST, 1927

Industry	Per cent of change August, 1928, compared with—		Industry	Per cent of change August, 1928, compared with—	
	July, 1928	August, 1927		July, 1928	August, 1927
Pottery	+10.4	−2.7	Car building and repairing, steam-railroad	+0.8	−3.2
Millinery and lace goods	+7.4	−0.1	Chemicals	+0.6	+0.8
Stamped and enameled ware	+7.1	−1.7	Hardware	+0.6	−0.2
Boots and shoes	+5.5	−4.6	Lumber, millwork	+0.6	−2.6
Iron and steel	+5.3	+5.4	Clothing, men's	+0.5	−4.7
Brass, bronze, and copper products	+5.1	+9.8	Rubber boots and shoes	+0.4	−7.3
Shirts and collars	+5.1	−4.6	Woolen and worsted goods	+0.4	−3.6
Automobiles	+4.8	+3.4	Stoves	+0.3	−8.3
Furniture	+4.6	−1.8	Sugar refining, cane	+0.3	+4.8
Hosiery and knit goods	+4.5	−1.1	Electrical machinery, apparatus, and supplies	+0.1	+0.6
Clothing, women's	+4.2	−3.6	Petroleum refining	+0.1	+3.7
Silk goods	+4.2	+4.1	Flour	−(2)	+3.8
Carpets and rugs	+3.8	−8.8	Baking	−0.2	+0.1
Glass	+3.2	+2.8	Leather	−0.2	−2.3
Machine tools	+2.9	+6.1	Chewing and smoking tobacco and snuff	−0.3	+0.8
Agricultural implements	+2.7	+4.3	Lumber, sawmills	−0.3	−0.4
Paper and pulp	+2.2	+1.2	Cement	−0.7	+1.0
Dyeing and finishing textiles	+1.9	−1.6	Printing, newspapers	−0.7	+0.4
Automobile tires	+1.7	+2.1	Printing, book and job	−1.0	−0.1
Brick, tile, and terra cotta	+1.7	−1.8	Cotton goods	−1.1	−9.2
Foundry and machine-shop products	+1.6	+2.9	Ice cream	−1.8	+2.2
Steam fittings and steam and hot-water heating apparatus	+1.6	(1)	Shipbuilding	−2.1	+0.7
Pianos and organs	+1.4	−1.1	Fertilizer	−2.4	−1.2
Confectionery	+1.3	−0.2	Slaughtering and meat packing	−2.4	−0.9
Structural ironwork	+1.3	−0.8	Cast-iron pipe	−2.6	−8.5
Paper boxes	+1.1	+2.5	Cigars and cigarettes	−3.2	−4.3
Car building, and repairing, electric-railroad	+0.8	+2.0	Carriages and wagons	−3.9	−2.4

[1] No change.

[2] Less than one-tenth of 1 per cent.

Wage Changes

THIRTY-EIGHT establishments in 18 industries reported wage-rate increases made during the month ending August 15, 1928. These increases averaged 6.6 per cent and affected 2,024 employees, or 13 per cent of the total employees in the establishments concerned.

Eight establishments in 6 industries reported wage-rate decreases made during the same period. These decreases averaged 10.3 per cent and affected 1,020 employees, being 68 per cent of the total employees in the establishments concerned.

TABLE 5.—WAGE ADJUSTMENTS OCCURRING BETWEEN JULY 15 AND AUGUST 15, 1928

Industry	Establishments		Per cent of increase or decrease in wage rates		Employees affected		
						Per cent of employees	
	Total number reporting	Number reporting increase or decrease in wage rates	Range	Average	Total number	In establishments reporting increase or decrease in wage rates	In all establishments reporting
Increases							
Confectionery	303	1	5.8	5.8	14	6	(1)
Baking	640	2	5.8–7.2	7.1	32	5	(1)
Structural ironwork	160	1	9.4	9.4	11	9	(1)
Foundry and machine-shop products	982	3	2.0–13.5	6.2	116	4	(1)
Hardware	70	3	8.6–10.0	8.9	55	4	(1)
Machine tools	143	1	3.5	3.5	12	6	(1)
Lumber, sawmills	466	1	6.0	6.0	508	100	(1)
Lumber, millwork	264	3	2.5–7.5	4.2	78	10	(1)
Furniture	420	2	5.3–9.3	6.1	40	9	(1)
Leather	127	2	1.0–10.0	7.8	73	16	(1)
Paper boxes	184	2	10.0–25.0	20.0	18	6	(1)
Printing, book and job	313	3	8.1–13.7	10.0	62	5	(1)
Printing, newspapers	211	3	1.4–3.5	2.7	344	26	1
Chemicals	127	2	5.0–10.0	7.9	183	9	1
Brick, tile, and terra cotta	600	4	8.0–14.0	9.6	339	85	1
Glass	127	3	7.5–8.9	8.4	53	4	(1)
Car building and repairing, steam-railroad	560	1	5.0	5.0	56	6	(1)
Electrical machinery, apparatus, and supplies	169	1	5.0	5.0	30	7	(1)
Decreases							
Hosiery and knit goods	234	2	10.0–20.0	11.0	493	68	1
Silk goods	190	1	9.4	9.4	22	19	(1)
Dyeing and finishing textiles	95	1	10.0	10.0	143	100	(1)
Foundry and machine-shop products	982	1	10.0	10.0	221	100	(1)
Lumber, millwork	264	1	10.0	10.0	65	100	(1)
Boots and shoes	214	2	10.0	10.0	76	33	(1)

[1] Less than one-half of 1 per cent.

Indexes of Employment and Pay-Roll Totals in Manufacturing Industries

INDEX numbers for August, July, and June, 1928, and for August, 1927, showing relatively the variation in number of persons employed and in pay-roll totals in each of the 54 industries surveyed by the Bureau of Labor Statistics, together with general indexes for the combined 12 groups of industries, appear in Table 6.

The general index of employment for August, 1928, is 86, this number being 1.5 per cent higher than the index for July, 1928, 0.5 per cent higher than the index for June, 1928, and 1.6 per cent lower than the index for August, 1927. The general index for pay-roll totals in August, 1928, is 90.2, this number being 3.2 per cent higher than the index for July, 1928, the same as the index for June, 1928, and 0.9 per cent lower than the index for August, 1927.

TABLE 6.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—AUGUST, 1927, AND JUNE, JULY, AND AUGUST, 1928

[Monthly average, 1923=100]

Industry	Employment				Pay-roll totals			
	1927	1928			1927	1928		
	August	June	July	August	August	June	July	August
General index	**87.4**	**85.6**	**84.7**	**86.0**	**91.0**	**90.2**	**87.4**	**90.2**
Food and kindred products	**89.1**	**87.0**	**87.4**	**87.0**	**93.7**	**93.3**	**93.7**	**92.2**
Slaughtering and meat packing	80.2	80.6	80.9	79.1	83.7	85.8	85.7	81.8
Confectionery	77.9	71.8	69.1	71.6	85.6	81.2	74.7	78.5
Ice cream	104.2	99.7	108.6	106.5	111.9	107.8	121.3	116.8
Flour	88.6	82.8	85.4	88.7	90.5	86.7	90.7	94.0
Baking	102.1	102.9	102.1	100.8	107.4	108.9	107.8	106.2
Sugar refining, cane	98.7	79.6	88.9	89.7	100.2	84.4	94.5	95.6
Textiles and their products	**85.3**	**81.0**	**78.3**	**79.1**	**86.5**	**78.7**	**75.1**	**77.6**
Cotton goods	86.6	76.2	74.7	73.6	86.8	69.4	68.7	67.0
Hosiery and knit goods	92.6	92.0	87.0	87.9	104.7	105.4	93.3	98.6
Silk goods	97.7	96.2	92.9	93.7	104.7	107.5	99.5	104.7
Woolen and worsted goods	78.1	76.1	73.1	74.8	77.6	74.5	69.8	71.8
Carpets and rugs	94.3	91.2	89.6	90.3	93.2	79.0	77.8	81.4
Dyeing and finishing textiles	96.5	94.5	92.8	93.5	98.6	95.7	91.7	94.2
Clothing, men's	84.8	77.8	76.3	78.7	81.0	70.4	69.5	72.1
Shirts and collars	76.5	74.3	73.1	72.0	78.9	73.7	68.1	70.5
Clothing, women's	76.8	79.3	75.6	78.0	79.3	73.6	72.3	77.8
Millinery and lace goods	66.8	66.2	60.0	63.5	69.8	67.1	58.3	66.3
Iron and steel and their products	**84.4**	**84.4**	**83.7**	**84.7**	**87.1**	**90.7**	**86.6**	**90.2**
Iron and steel	89.3	88.6	87.7	88.8	90.5	94.3	88.9	94.8
Cast-iron pipe	95.6	89.6	85.6	85.5	97.4	82.8	81.9	79.7
Structural ironwork	97.1	95.1	94.9	98.8	108.0	106.0	103.5	109.2
Foundry and machine-shop products	80.8	80.5	80.4	80.8	82.2	85.6	82.9	84.5
Hardware	76.8	77.8	74.8	77.7	83.1	85.7	80.3	84.0
Machine tools	82.6	101.3	102.8	97.2	91.2	120.2	117.1	114.0
Steam fittings and steam and hot-water heating apparatus	91.5	81.4	78.1	84.0	97.6	87.2	82.0	89.6
Stoves	76.9	76.6	70.4	76.2	78.5	75.3	65.6	71.2
Lumber and its products	**84.5**	**80.2**	**79.3**	**81.1**	**92.5**	**88.1**	**85.4**	**88.0**
Lumber, sawmills	80.9	77.2	75.8	77.4	88.7	85.6	83.2	84.7
Lumber, millwork	89.4	86.4	86.6	87.6	97.8	95.0	91.8	93.4
Furniture	94.1	86.8	87.0	90.1	102.3	92.5	88.6	96.0
Leather and its products	**91.0**	**80.6**	**84.1**	**85.7**	**93.3**	**74.6**	**80.1**	**84.7**
Leather	88.6	86.2	86.7	87.1	90.4	85.8	86.5	86.8
Boots and shoes	91.8	78.8	83.3	85.3	94.4	70.1	77.5	83.8
Paper and printing	**102.4**	**101.5**	**101.5**	**101.7**	**110.6**	**112.4**	**110.4**	**110.7**
Paper and pulp	93.2	89.9	89.4	90.2	98.0	96.0	93.4	96.3
Paper boxes	96.3	91.8	91.2	91.7	107.2	107.7	102.9	104.6
Printing, book and job	102.9	101.4	102.9	103.3	113.9	114.4	114.8	114.0
Printing, newspapers	113.5	117.3	116.3	115.7	120.2	127.2	124.4	122.9
Chemicals and allied products	**90.0**	**86.1**	**85.7**	**86.9**	**96.4**	**93.4**	**93.2**	**94.5**
Chemicals	93.3	93.1	91.6	91.5	104.2	105.1	102.4	103.0
Fertilizers	71.7	68.4	68.7	74.1	83.8	81.1	81.3	85.5
Petroleum	93.5	84.3	85.2	86.3	91.5	84.1	86.5	87.7
Stone, clay, and glass products	**94.8**	**93.1**	**90.3**	**93.4**	**100.7**	**98.7**	**93.4**	**99.7**
Cement	93.2	84.5	84.9	86.2	99.1	89.6	91.6	92.4
Brick, tile, and terra cotta	100.9	90.8	91.5	91.7	105.6	93.7	92.6	94.5
Pottery	94.8	102.7	93.1	101.1	103.2	106.9	89.2	107.0
Glass	89.4	94.8	90.0	94.7	96.2	103.7	96.3	104.6
Metal products, other than iron and steel	**90.0**	**89.7**	**89.4**	**90.8**	**88.3**	**92.3**	**88.9**	**95.2**
Stamped and enameled ware	82.5	85.0	82.9	84.3	82.1	82.6	75.8	82.6
Brass, bronze, and copper products	93.4	91.9	92.4	93.7	90.6	95.9	93.7	99.9
Tobacco products	**78.5**	**81.6**	**77.2**	**82.9**	**80.8**	**83.2**	**78.7**	**82.3**
Chewing and smoking tobacco and snuff	91.1	88.2	82.3	87.1	95.3	95.2	86.9	91.7
Cigars and cigarettes	76.9	80.7	76.5	82.4	79.1	81.8	77.7	81.2

TABLE 6.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—AUGUST, 1927, AND JUNE, JULY, AND AUGUST, 1928—Continued

Industry	Employment				Pay-roll totals			
	1927	1928			1927	1928		
	August	June	July	August	August	June	July	August
Vehicles for land transportation	**83.0**	**89.1**	**88.5**	**91.4**	**85.8**	**92.6**	**89.1**	**94.5**
Automobiles	99.1	122.4	122.3	130.0	100.1	124.4	121.8	135.7
Carriages and wagons	72.5	67.8	68.8	76.1	78.8	76.0	76.1	80.8
Car building and repairing, electric-railroad	90.8	84.7	83.5	82.8	92.3	88.0	86.0	85.8
Car building and repairing, steam-railroad	72.6	68.9	67.9	67.8	76.5	72.9	68.6	69.0
Miscellaneous industries	**92.6**	**87.1**	**86.9**	**87.5**	**96.6**	**93.7**	**90.9**	**91.1**
Agricultural implements	86.6	106.1	103.5	102.9	99.0	126.2	120.3	122.9
Electrical machinery, apparatus, and supplies	92.4	90.1	89.5	93.2	97.7	98.7	95.2	99.2
Pianos and organs	83.8	71.8	64.6	71.9	89.2	74.7	67.2	75.9
Rubber boots and shoes	80.7	78.6	83.8	80.4	91.3	85.3	87.6	84.3
Automobile tires	110.4	112.4	117.4	120.1	114.0	119.5	121.8	126.8
Shipbuilding	89.3	75.4	73.9	72.0	91.4	81.3	77.7	74.2

Table 7 shows the general index of employment in manufacturing industries and the general index of pay-roll totals, by months, from January, 1923, to August, 1928.

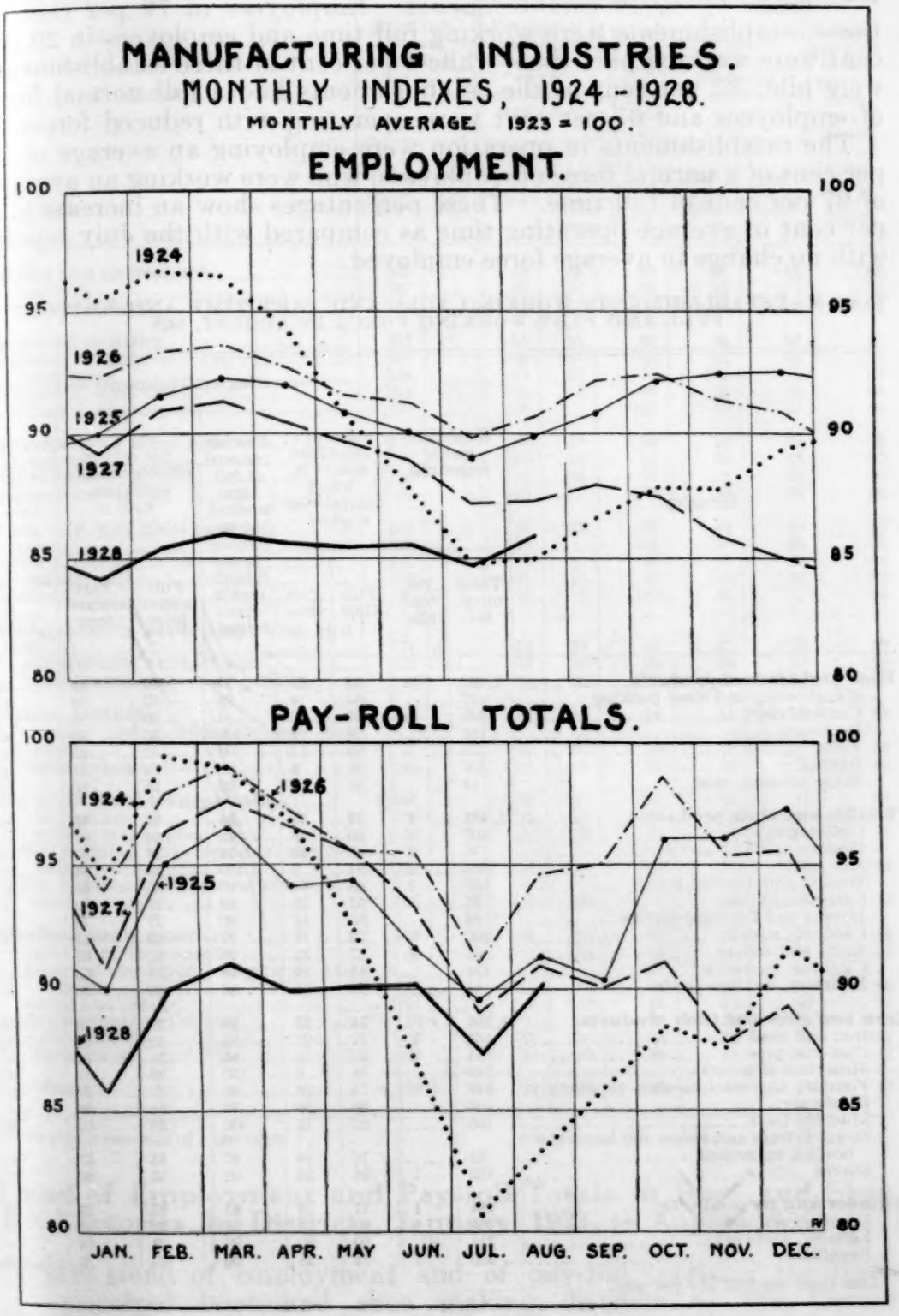
Following Table 7 is a chart which represents the 54 industries combined and shows, by months, the course of pay-roll totals as well as the course of employment. It includes the years 1924, 1925, and 1926, as well as 1927, and January, February, March, April, May, June, July, and August, 1928.

TABLE 7.—GENERAL INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, JANUARY, 1923, TO AUGUST, 1928

[Monthly average, 1923=100]

Month	Employment						Pay-roll totals					
	1923	1924	1925	1926	1927	1928	1923	1924	1925	1926	1927	1928
January	98.0	95.4	90.0	92.3	89.4	84.2	91.8	94.5	90.0	93.9	90.9	85.8
February	99.6	96.6	91.6	93.3	91.0	85.5	95.2	99.4	95.1	97.9	96.4	90.0
March	101.8	96.4	92.3	93.7	91.4	86.1	100.3	99.0	96.6	99.1	97.7	91.2
April	101.8	94.5	92.1	92.8	90.6	85.7	101.3	96.9	94.2	97.2	96.6	89.9
May	101.8	90.8	90.9	91.7	89.7	85.5	104.8	92.4	94.4	95.6	95.6	90.1
June	101.9	87.9	90.1	91.3	89.1	85.6	104.7	87.0	91.7	95.5	93.3	90.2
July	100.4	84.8	89.3	89.8	87.3	84.7	99.9	80.8	89.6	91.2	89.1	87.4
August	99.7	85.0	89.9	90.7	87.4	86.0	99.3	83.5	91.4	94.6	91.0	90.2
September	99.8	86.7	90.9	92.2	88.0	-------	100.0	86.0	90.4	95.1	90.1	-------
October	99.3	87.9	92.3	92.5	87.6	-------	102.3	88.5	96.2	98.6	91.2	-------
November	98.7	87.8	92.5	91.4	85.9	-------	101.0	87.6	96.2	95.4	87.8	-------
December	96.9	89.4	92.6	90.9	85.1	-------	98.9	91.7	97.3	95.6	89.3	-------
Average	**100.0**	**90.3**	**91.2**	**91.9**	**88.5**	[1] **85.4**	**100.0**	**90.6**	**93.6**	**95.8**	**92.4**	[1] **89.4**

[1] Average for 8 months.


MANUFACTURING INDUSTRIES.
MONTHLY INDEXES, 1924 - 1928.
MONTHLY AVERAGE 1923 = 100.
EMPLOYMENT.
100
95
90
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80
1924
1926
1925
1927
1928
PAY-ROLL TOTALS.
JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEP. OCT. NOV. DEC.

Proportion of Time Worked and Force Employed in Selected Manufacturing Industries in August, 1928

REPORTS as to time worked and force employed in August were made by 9,039 establishments. Employees in 79 per cent of these establishments were working full time and employees in 20 per cent were working part time, while 1 per cent of these establishments were idle; 32 per cent of the establishments had a full normal force of employees and 67 per cent were operating with reduced forces.

The establishments in operation were employing an average of 87 per cent of a normal force of employees, who were working an average of 97 per cent of full time. These percentages show an increase of 1 per cent in average operating time as compared with the July report, with no change in average force employed.

TABLE 8.—ESTABLISHMENTS WORKING FULL AND PART TIME AND EMPLOYING FULL AND PART WORKING FORCE IN AUGUST, 1928

Industry	Establishments reporting		Operating establishments only					
			Per cent of establishments in which employees worked—		Average per cent of full time worked by employees in establishments operating	Per cent of establishments operating with—		Average per cent of full normal force employed in establishments operating
	Total number	Per cent idle	Full time	Part time		Full normal force	Part normal force	
Food and kindred products	**1,408**	(1)	**85**	**15**	**97**	**40**	**59**	**86**
Slaughtering and meat packing	137	------	84	16	98	42	58	87
Confectionery	240	3	53	45	91	10	87	71
Ice cream	181	------	98	2	100	30	70	85
Flour	279	------	89	11	99	55	45	91
Baking	557	------	92	8	99	49	51	93
Sugar refining, cane	14	------	86	14	98	14	86	89
Textiles and their products	**1,481**	**1**	**73**	**25**	**95**	**33**	**66**	**86**
Cotton goods	407	3	69	29	92	30	67	84
Hosiery and knit goods	178	3	67	30	94	37	61	90
Silk goods	166	------	91	9	100	36	64	90
Woolen and worsted goods	167	1	68	31	95	33	66	81
Carpets and rugs	26	------	62	38	92	27	73	88
Dyeing and finishing textiles	89	------	55	45	90	27	73	86
Clothing, men's	207	1	79	19	97	38	61	86
Shirts and collars	63	2	67	32	97	32	67	87
Clothing, women's	134	------	81	19	98	34	66	88
Millinery and lace goods	44	------	84	16	98	20	80	82
Iron and steel and their products	**1,566**	(1)	**75**	**25**	**96**	**29**	**70**	**86**
Iron and steel	165	1	77	22	96	25	74	86
Cast-iron pipe	34	3	47	50	84	24	74	80
Structural ironwork	145	------	91	9	100	39	61	92
Foundry and machine-shop products	849	(1)	74	26	96	27	72	85
Hardware	50	------	50	50	93	14	86	81
Machine tools	136	------	87	13	100	38	62	90
Steam fittings and steam and hot-water heating apparatus	84	------	76	24	97	33	67	85
Stoves	103	1	64	35	92	33	66	86
Lumber and its products	**964**	**1**	**77**	**23**	**97**	**27**	**73**	**85**
Lumber, sawmills	403	1	80	19	96	32	67	85
Lumber, millwork	211	(1)	80	20	98	23	76	80
Furniture	350	1	71	28	96	23	76	88

[1] Less than one-half of 1 per cent.

TABLE 8.—ESTABLISHMENTS WORKING FULL AND PART TIME AND EMPLOYING FULL AND PART WORKING FORCE IN AUGUST, 1928—Continued

Industry	Establishments reporting		Operating establishments only					
			Per cent of establishments in which employees worked—		Average per cent of full time worked by employees in establishments operating	Per cent of establishments operating with—		Average per cent of full normal force employed in establishments operating
	Total number	Per cent idle	Full time	Part time		Full normal force	Part normal force	
Leather and its products	**275**	(1)	**85**	**15**	**98**	**36**	**63**	**88**
Leather	107	------	90	10	99	25	75	83
Boots and shoes	168	1	82	17	98	43	56	90
Paper and printing	**671**	(1)	**85**	**15**	**98**	**38**	**61**	**94**
Paper and pulp	164	1	84	15	98	31	68	93
Paper boxes	136	------	63	38	95	22	78	84
Printing, book and job	234	(1)	90	9	99	38	62	94
Printing, newspapers	137	------	99	1	100	65	35	99
Chemicals and allied products	**273**	**1**	**82**	**17**	**98**	**15**	**84**	**74**
Chemicals	97	1	85	14	97	36	63	90
Fertilizers	140	1	75	24	97	1	98	40
Petroleum refining	36	------	100	------	100	14	86	80
Stone, clay, and glass products	**654**	**3**	**81**	**16**	**97**	**39**	**59**	**87**
Cement	83	------	100	------	100	34	66	86
Brick, tile, and terra cotta	412	3	76	21	96	41	56	84
Pottery	62	2	81	18	97	39	60	90
Glass	97	3	91	6	100	36	61	89
Metal products, other than iron and steel	**174**	------	**74**	**26**	**97**	**27**	**73**	**89**
Stamped and enameled ware	52	------	87	13	99	38	62	89
Brass, bronze, and copper products	122	------	68	32	97	22	78	89
Tobacco products	**204**	**3**	**65**	**32**	**94**	**41**	**56**	**95**
Chewing and smoking tobacco and snuff	21	------	62	38	95	33	67	85
Cigars and cigarettes	183	3	66	31	94	42	55	96
Vehicles for land transportation	**1,066**	(1)	**83**	**16**	**98**	**27**	**72**	**94**
Automobiles	166	------	79	21	97	54	46	105
Carriages and wagons	54	4	70	26	97	22	74	78
Car building and repairing, electric-railroad	348	------	93	7	100	26	74	89
Car building and repairing, steam-railroad	498	------	80	20	97	20	80	79
Miscellaneous industries	**303**	**1**	**80**	**19**	**97**	**26**	**73**	**87**
Agricultural implements	68	1	81	18	98	25	74	92
Electrical machinery, apparatus, and supplies	132	1	84	15	98	24	75	89
Pianos and organs	27	------	48	52	93	11	89	71
Rubber boots and shoes	10	------	70	30	97	30	70	87
Automobile tires	39	3	87	10	98	51	46	101
Shipbuilding	27	------	78	22	86	11	89	57
Total	**9,039**	**1**	**79**	**20**	**97**	**32**	**67**	**87**

[1] Less than one-half of 1 per cent.

Trend of Employment and Pay-roll Totals in Boot and Shoe Factories, by Districts, January, 1923, to August, 1928

THE trend of employment and of pay-roll totals in the three principal boot and shoe making districts of the United States—New England, Middle Atlantic, and North Central—is shown in the following table and accompanying chart.

INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN BOOT AND SHOE FACTORIES, BY DISTRICTS

[Monthly average, 1923=100]

New England States: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

Month	Employment						Pay-roll totals					
	1923	1924	1925	1926	1927	1928	1923	1924	1925	1926	1927	1928
January	106.9	96.1	89.5	79.2	79.3	68.9	107.5	99.3	84.4	71.1	68.2	58.9
February	109.2	97.2	91.7	85.2	80.5	72.1	110.9	102.9	89.6	79.9	76.0	68.0
March	107.3	96.4	90.9	84.4	80.8	72.6	108.1	102.4	88.5	84.1	76.3	68.2
April	102.9	91.0	84.0	77.9	75.6	67.4	99.7	87.9	76.0	69.9	68.0	54.4
May	99.8	86.3	80.5	77.0	72.2	64.8	98.3	82.7	71.5	69.3	64.9	50.0
June	90.9	75.2	70.9	75.0	68.5	60.3	84.7	69.6	61.8	69.3	59.5	47.9
July	94.3	78.5	78.0	79.3	74.6	68.6	90.6	73.5	72.9	74.8	69.6	58.2
August	100.5	85.4	85.3	84.3	78.6	73.2	104.9	87.2	85.1	85.1	79.3	68.8
September	100.5	88.1	86.2	85.7	78.1	-------	103.7	92.2	80.2	84.1	76.1	-------
October	98.2	88.9	86.2	85.4	75.8	-------	97.0	90.7	81.7	81.0	65.5	-------
November	97.9	85.0	82.1	83.1	70.7	-------	101.2	76.6	70.6	73.6	56.8	-------
December	91.4	82.4	74.9	76.5	62.6	-------	93.5	72.8	63.0	63.9	47.5	-------
Average	**100.0**	**87.6**	**83.4**	**81.1**	**74.8**	[1] **68.5**	**100.0**	**86.5**	**77.1**	**75.5**	**67.3**	[1] **59.3**

Middle Atlantic States: New Jersey, New York, and Pennsylvania

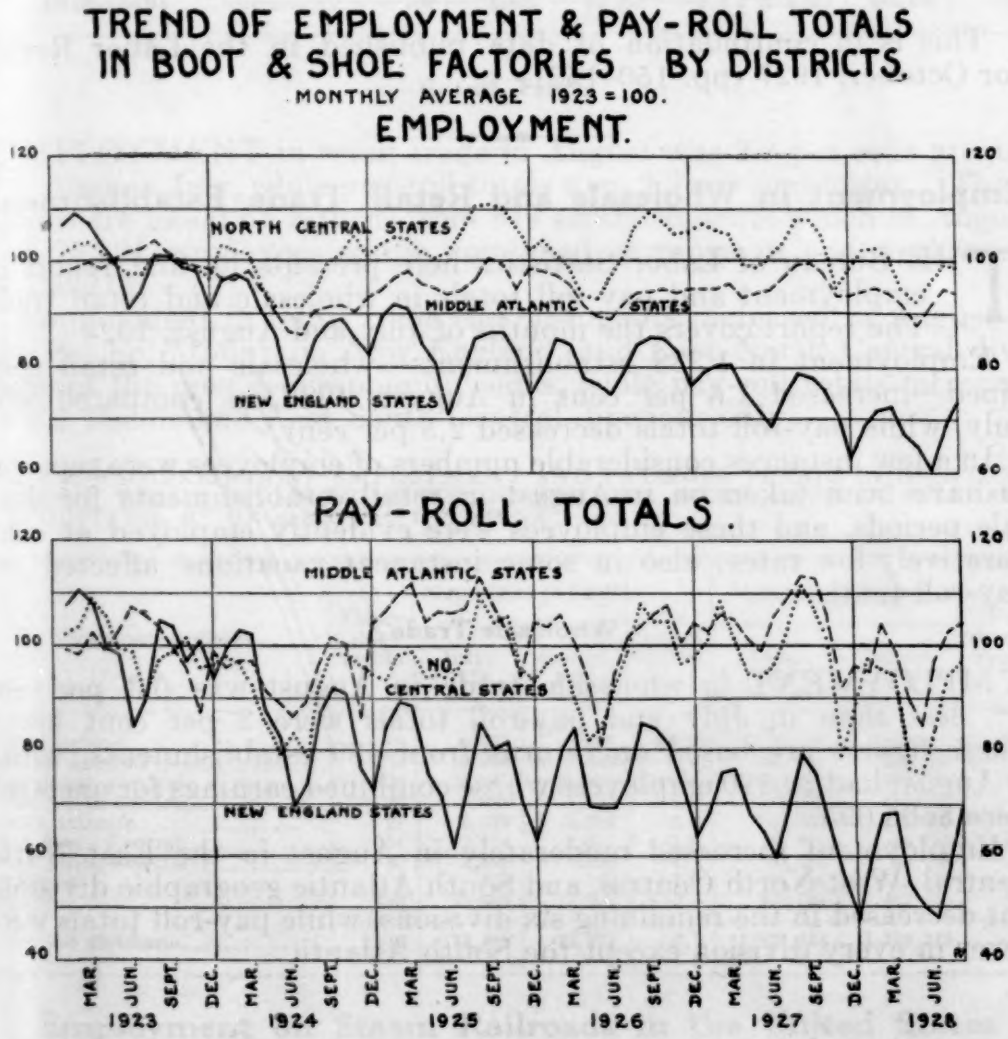
January	97.9	96.8	94.4	97.8	94.7	94.0	99.1	95.8	106.7	103.7	102.8	95.0
February	98.5	96.6	96.6	97.4	94.7	94.8	98.1	97.3	109.8	105.7	106.0	104.1
March	99.8	98.0	97.9	95.3	95.4	93.7	102.6	97.1	112.0	100.4	105.0	98.8
April	98.2	94.3	95.6	91.6	93.0	91.3	99.3	91.6	104.8	93.6	101.4	90.1
May	100.1	90.1	94.9	89.5	93.6	87.6	102.8	89.2	106.6	80.8	98.8	84.8
June	101.8	86.4	93.6	88.9	94.6	91.1	107.4	86.9	106.4	94.4	105.9	97.4
July	102.4	86.2	94.2	91.9	96.9	94.1	105.8	89.5	107.1	101.7	108.9	102.5
August	103.7	90.3	96.3	93.8	99.0	93.7	103.8	96.3	113.3	103.7	113.1	104.3
September	101.3	91.2	100.4	94.0	99.8	-------	99.6	101.8	107.4	106.2	112.6	-------
October	99.4	91.6	99.0	94.7	97.6	-------	95.4	100.1	102.4	107.6	106.0	-------
November	98.7	90.1	94.6	93.9	93.2	-------	87.4	86.1	94.2	100.7	92.2	-------
December	98.3	92.9	98.2	94.7	93.3	-------	98.8	104.1	104.5	104.4	96.1	-------
Average	**100.0**	**92.0**	**96.3**	**93.6**	**95.5**	[1] **92.5**	**100.0**	**94.7**	**106.3**	**100.2**	**104.1**	[1] **97.1**

North Central States: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin

January	101.7	102.7	103.2	103.9	107.2	102.2	102.4	98.0	93.4	96.7	101.2	97.0
February	102.7	102.1	104.5	101.4	106.2	102.5	103.6	96.8	98.2	98.2	108.4	95.8
March	103.5	101.5	104.2	98.5	105.1	100.5	108.8	92.5	98.8	90.2	101.4	94.4
April	102.0	94.8	101.9	93.5	99.0	94.8	105.7	85.2	94.1	82.0	94.5	76.7
May	99.7	91.2	100.3	92.6	98.5	92.4	99.7	79.4	94.3	84.0	94.0	76.0
June	97.5	91.8	101.6	96.6	100.8	95.7	98.8	83.1	93.8	91.6	96.5	84.7
July	97.5	91.5	105.1	100.5	103.4	99.0	90.7	78.7	97.7	98.7	103.1	94.4
August	100.8	94.1	110.8	106.8	107.9	98.9	97.3	92.3	109.9	108.0	111.5	96.9
September	100.5	99.4	111.3	109.6	107.7	-------	98.8	98.2	104.3	104.7	106.8	-------
October	99.4	101.7	110.3	107.8	105.0	-------	101.5	98.6	105.3	104.7	101.1	-------
November	98.3	104.9	106.8	105.2	95.0	-------	96.0	96.3	95.5	96.5	78.9	-------
December	96.8	101.1	102.4	105.9	98.5	-------	96.3	94.5	93.2	97.6	89.1	-------
Average	**100.0**	**98.1**	**105.2**	**101.9**	**102.9**	[1] **98.3**	**100.0**	**91.1**	**98.2**	**96.1**	**98.9**	[1] **89.5**

[1] Average for 8 months.

The information collected is presented in the form of index numbers which show relatively the movement of employment and pay-roll totals from month to month—January, 1923, to August, 1928. In computing these index numbers the monthly average for 1923 is used as a base, or 100. The data for 68 months are linked together by means of a chain index, the per cent of change from one month to the succeeding month being obtained by comparing reports from identical establishments for the two months. The number of establishments reporting has varied from month to month, and the average number in 1928 is greater than in 1923, but even in the earlier year so large a number of employees was represented in each district as to render the information representative of the industry as a whole in the respective districts.



In August, 1928, the representation from each district was as follows: New England, 107 establishments, 29,979 employees, and $721,437 weekly pay-roll total; Middle Atlantic, 27 establishments, 23,029 employees, and $617,498 weekly pay-roll total; North Central, 59 establishments, 30,273 employees, and $666,068 weekly pay-roll total. The range of employment has been greatest in New England

States, the index standing at 109.2 in February, 1923, at 60.3 in June, 1928, and 73.2 in August, 1928; in the Middle Atlantic States the index of employment stood at 103.7 in August, 1923, at 86.2 in July, 1924, and 93.7 in August, 1928; and in the North Central States the index of employment stood at 91.2 in May, 1924, at 107.9 in August, 1927, and 98.9 in August, 1928.

The average indexes of employment for the first eight months of 1928 and for the first eight months of 1927 are:

Geographic division	1927	1928
New England	76.3	68.5
Middle Atlantic	95.2	92.5
North Central	103.5	98.3

This is in continuation of data published in the Labor Review for October, 1927 (pp. 150–152).

Employment in Wholesale and Retail Trade Establishments

THE Bureau of Labor Statistics here presents its first report on employment and pay-roll totals in wholesale and retail trade. The report covers the months of July and August, 1928.

Employment in 1,338 establishments—wholesale and retail combined—increased 1.6 per cent in August, 1928, as compared with July, while pay-roll totals decreased 2.5 per cent.

In a few instances considerable numbers of employees were reported to have been taken on in August in retail establishments for short sale periods, and these employees were evidently employed at comparatively low rates; also in some instances vacations affected the pay-roll totals.

Wholesale Trade

EMPLOYMENT in wholesale trade in August was 0.3 per cent less than in July and pay-roll totals were 3 per cent lower. These figures are based on returns from 489 establishments, which in August had 22,380 employees whose combined earnings for one week were $605,095.

Employment increased moderately in August in the East North Central, West North Central, and South Atlantic geographic divisions but decreased in the remaining six divisions, while pay-roll totals were lower in every division except the South Atlantic.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL WHOLESALE TRADE ESTABLISHMENTS DURING ONE WEEK EACH IN JULY AND AUGUST, 1928, BY GEOGRAPHIC DIVISIONS

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		July, 1928	August, 1928		July, 1928	August, 1928	
New England	43	945	919	−2.8	$27,710	$27,533	−0.6
Middle Atlantic	82	3,037	2,979	−1.9	97,434	96,355	−1.1
East North Central	90	4,588	4,635	+1.0	145,464	138,744	−4.6
West North Central	73	8,263	8,383	+1.5	186,236	181,764	−2.4
South Atlantic	66	1,064	1,067	+0.3	31,532	31,737	+0.7
East South Central	20	906	894	−1.3	26,549	26,055	−1.9
West South Central	35	1,584	1,564	−1.3	50,469	48,230	−4.4
Mountain	7	164	161	−1.8	6,871	6,054	−11.9
Pacific	73	1,901	1,778	−6.5	51,636	48,623	−5.8
All divisions	**489**	**22,452**	**22,380**	**−0.3**	**623,901**	**605,095**	**−3.0**

Retail Trade

EMPLOYMENT in retail trade in August was 2.2 per cent greater than in July, while pay-roll totals were 2.3 per cent lower. These figures are based on returns from 849 establishments which in August had 75,221 employees whose combined earnings in one week were $1,780,214.

Employment in retail trade establishments increased in August in the Pacific, Mountain, New England, and East North Central divisions of the nine geographic divisions, while pay-roll totals increased in the Pacific and East South Central divisions only.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL RETAIL TRADE ESTABLISHMENTS DURING ONE WEEK EACH IN JULY AND AUGUST, 1928, BY GEOGRAPHIC DIVISIONS

Geographic division	Establishments	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		July, 1928	August, 1928		July, 1928	August, 1928	
New England	18	6,407	6,684	+4.3	$170,750	$162,625	−4.8
Middle Atlantic	104	10,944	10,685	−2.4	269,281	254,668	−5.4
East North Central	76	21,825	21,836	+0.1	625,439	600,712	−4.0
West North Central	25	5,988	5,877	−1.9	119,887	117,857	−1.7
South Atlantic	27	5,829	5,634	−3.3	118,632	114,560	−3.4
East South Central	114	2,554	2,457	−3.8	45,841	46,715	+1.9
West South Central	33	3,395	3,356	−1.1	65,636	63,498	−3.3
Mountain	6	672	719	+7.0	13,446	12,111	−9.9
Pacific	446	15,994	17,973	+12.4	392,521	407,468	+3.8
All divisions	**849**	**73,608**	**75,221**	**+2.2**	**1,821,433**	**1,780,214**	**−2.3**

Employment on Steam Railroads in the United States

THE monthly trend of employment from January, 1923, to July, 1928, on Class I railroads—that is, all roads having operating revenues of $1,000,000 or over—is shown by the index numbers published in Table 1. These index numbers are constructed from monthly reports of the Interstate Commerce Commission, using the monthly average for 1923 as 100.

TABLE 1.—INDEX OF EMPLOYMENT ON CLASS I STEAM RAILROADS IN THE UNITED STATES—JANUARY, 1923, TO JUNE, 1928

[Monthly average, 1923=100]

Month	1923	1924	1925	1926	1927	1928
January	94.6	93.1	91.9	92.1	91.8	85.8
February	94.8	93.2	91.7	92.3	91.6	85.5
March	96.6	93.6	91.5	92.9	92.1	86.4
April	98.0	95.0	92.8	95.0	93.6	88.1
May	100.9	95.3	94.0	96.3	95.5	90.8
June	102.9	94.2	94.8	97.6	97.0	92.2
July	104.0	94.3	95.5	98.9	97.1	91.9
August	105.1	95.1	95.8	98.7	95.6	
September	103.6	95.8	96.0	98.8	95.2	
October	103.1	96.9	96.8	99.4	95.0	
November	101.1	95.1	95.2	97.3	92.0	
December	95.5	92.3	93.3	94.4	88.3	
Average	**100.0**	**94.5**	**94.1**	**96.1**	**93.7**	[1] 88.7

[1] Average for 7 months.

Table 2 shows the total number of employees on the 15th day each of July, 1927, and June and July, 1928, and pay-roll totals for each of the entire months considered, by principal occupational groups and various important occupations.

In these tabulations data for the occupational group reported as "executives, officials, and staff assistants" are omitted.

TABLE 2.—EMPLOYMENT AND TOTAL MONTHLY EARNINGS OF RAILROAD EMPLOYEES—JULY, 1927, AND JUNE AND JULY, 1928

[From monthly reports of Interstate Commerce Commission. As data for only the more important occupations are shown separately, the group totals are not the sum of the items under the respective groups]

Occupation	Number of employees at middle of month			Total earnings		
	July, 1927	June, 1928	July, 1928	July, 1927	June, 1928	July, 1928
Professional, clerical, and general	**282,554**	**271,403**	**272,216**	**$39,761,287**	**$39,265,921**	**$39,224,523**
Clerks	163,993	155,101	155,707	21,844,577	21,325,474	21,296,963
Stenographers and typists	25,354	24,758	24,644	3,181,461	3,208,779	3,171,647
Maintenance of way and structures	**487,429**	**456,296**	**452,732**	**44,132,344**	**42,532,329**	**41,743,466**
Laborers, extra gang and work train	95,014	82,351	81,820	7,353,750	6,531,955	6,470,961
Laborers, track and roadway section	249,940	237,899	234,519	18,133,629	17,682,436	17,078,664
Maintenance of equipment and stores	**489,934**	**464,637**	**457,943**	**63,711,201**	**60,955,604**	**60,107,435**
Carmen	104,730	100,967	99,266	15,458,541	15,014,951	14,757,935
Machinists	58,509	56,022	55,314	9,022,725	8,739,115	8,581,953
Skilled trades helpers	107,858	101,858	100,602	11,864,902	11,295,939	11,123,885
Laborers (shops, engine houses, power plants, and stores)	41,292	37,919	38,118	3,927,301	3,547,424	3,627,060
Common laborers (shops, engine houses, power plants, and stores)	56,541	53,191	52,024	4,512,247	4,327,052	4,184,490
Transportation, other than train, engine, and yard	**206,027**	**198,204**	**198,808**	**25,718,239**	**24,840,225**	**25,180,522**
Station agents	30,460	29,897	29,904	4,773,881	4,736,990	4,772,201
Telegraphers, telephoners, and towermen	24,614	23,400	23,462	3,805,589	3,578,121	3,684,255
Truckers (stations, warehouses, and platforms)	35,729	33,995	33,652	3,367,194	3,263,570	3,212,258
Crossing and bridge flagmen and gatemen	21,989	21,394	21,400	1,700,879	1,642,943	1,646,735

TABLE 2.—EMPLOYMENT AND TOTAL MONTHLY EARNINGS OF RAILROAD EMPLOYEES—JULY, 1927, AND JUNE AND JULY, 1928—Continued

Occupation	Number of employees at middle of month			Total earnings		
	July, 1927	June, 1928	July, 1928	July, 1927	June, 1928	July, 1928
Transportation (yard masters, switch tenders, and hostlers)	**23,516**	**22,030**	**22,122**	**$4,589,849**	**$4,312,183**	**$4,438,344**
Transportation, train and engine	**316,810**	**306,892**	**308,002**	**63,590,903**	**61,262,531**	**63,276,033**
Road conductors	36,361	35,169	35,472	8,736,507	8,197,608	8,483,772
Road brakemen and flagmen	72,078	69,504	70,060	12,638,734	11,778,373	12,170,834
Yard brakemen and yard helpers	52,270	50,860	50,433	9,232,908	8,847,392	9,030,316
Road engineers and motormen	42,960	41,380	41,768	11,214,468	11,143,933	11,649,192
Road firemen and helpers	43,936	42,271	42,836	8,640,680	8,308,968	8,607,845
Total, all employees	**1,806,270**	**1,718,862**	**1,711,823**	**241,503,823**	**233,168,793**	**233,970,323**

Unemployment of Organized Building-Trades Workers in Massachusetts

THE amount of unemployment among organized building-trades workers in Massachusetts on August 1, 1928, with some comparative data for May 1, June 1, and July 2, is shown in the following figures taken from a press release of the Massachusetts Department of Labor and Industries. Table 1 shows the number and per cent of these workers who were unemployed, and the cause of the unemployment, on the dates specified.

TABLE 1.—NUMBER AND PER CENT OF ORGANIZED BUILDING-TRADES WORKERS UNEMPLOYED IN MASSACHUSETTS ON SPECIFIED DATES, BY CAUSE OF UNEMPLOYMENT

Classification	Date of report			
	May 1, 1928	June 1, 1928	July 2, 1928	Aug. 1, 1928
Number of unions reporting	309	315	307	313
Membership of unions reporting	50,558	50,909	50,988	51,954
Number of members reported as unemployed because of—				
Lack of work, or materials	11,207	8,592	6,539	5,879
Strike or lockout	114	2,032	37	95
Sickness, accident, or old age	730	839	731	780
Unfavorable weather	47	135	117	62
Other reasons	74	40	----------	50
Total, all causes	12,172	11,638	7,424	6,866
Per cent of members unemployed because of—				
Lack of work or materials	22.2	16.9	12.8	11.3
Strike or lockout	.2	4.0	.1	.2
Sickness, accident, or old age	1.4	1.6	1.4	1.5
Unfavorable weather	.1	.3	.2	.1
Other reasons	.2	.1	----------	.1
Total, all causes	24.1	22.9	14.6	13.2

The figures show that the percentage of unemployment from all causes combined was lower on August 1 than on any of the other dates for which data are given. Lack of work or materials caused the greatest amount of unemployment (11.3 per cent), the next most important contributing cause being sickness, accident, or old age, with a percentage, however, of only 1.5. Unemployment due to other causes, including strikes and lockouts and unfavorable weather, was negligible.

The amount of unemployment in the different occupation groups is shown in Table 2, and in Table 3 the percentage of unemployment in the building trades as a whole from all causes and from lack of work or materials on each monthly reporting date from April 1, 1927, to August 1, 1928.

TABLE 2.—NUMBER AND PER CENT OF ORGANIZED BUILDING-TRADES WORKERS UNEMPLOYED IN MASSACHUSETTS ON AUGUST 1, 1928, BY OCCUPATION

Occupation	Number of unions reporting	Membership	Unemployed	
			Number	Per cent
Bricklayers, masons, and plasterers	40	5,798	639	11.0
Carpenters	106	19,858	3,335	16.8
Electrical workers	16	2,294	115	5.0
Hod carriers and building laborers	22	9,594	1,048	10.9
Lathers	9	414	54	13.1
Painters, decorators, and paperhangers	53	6,068	855	14.1
Plumbers, gasfitters, and steamfitters	38	4,128	673	16.3
Sheet-metal workers	13	948	52	5.5
Other occupations	16	2,852	95	3.3
All occupations	313	51,954	6,866	13.2

TABLE 3.—PER CENT OF BUILDING-TRADES WORKERS UNEMPLOYED FROM ALL CAUSES, AND FROM LACK OF WORK OR MATERIALS, ON SPECIFIED DATES

Reporting date	Membership of unions reporting	Per cent unemployed		Reporting date	Membership of unions reporting	Per cent unemployed	
		All causes	Lack of work or materials			All causes	Lack of work or materials
1927				*1928*			
Apr. 1	47,565	27.4	24.7	Jan. 3	52,226	27.3	20.8
May 2	49,670	19.9	17.8	Feb. 1	50,355	29.4	27.4
June 1	48,947	18.4	15.6	Mar. 1	49,553	34.1	28.9
July 1	47,627	17.2	15.3	Apr. 2	49,028	28.9	26.9
Aug. 1	49,671	14.7	12.4	May 1	50,558	24.1	22.2
Sept. 1	50,982	15.3	12.8	June 1	50,909	22.9	16.9
Oct. 3	51,529	13.5	11.4	July 2	50,988	14.6	12.8
Nov. 1	51,484	13.7	12.0	Aug. 1	51,954	13.2	11.3
Dec. 1	49,105	19.1	16.2				

Changes in Employment and Pay Rolls in Various States

THE following data as to changes in employment and pay roll have been compiled from reports received from the State labor offices:

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES

Monthly period

State, and industry group	Per cent of change, June to July, 1928	
	Employment	Pay roll
Illinois		
Stone, clay, and glass products	−0.3	−7.3
Metals, machinery, and conveyances	−4.3	−9.7
Wood products	−.7	−6.6
Furs and leather goods	+3.9	+.9
Chemicals, oils, paints, etc	+.3	−3.2
Printing and paper goods	+4.3	−1.7
Textiles	−8.2	−14.2
Clothing and millinery	−1.6	−.3
Food, beverages, and tobacco	−1.2	−4.8
All manufacturing industries	−2.0	−6.6
Trade, wholesale and retail	−.5	+.7
Services	+5.3	−.2
Public utilities	+1.7	−1.0
Coal mining	+11.3	+2.6
Building and contracting	+2.0	+1.1
All industries	−.7	−4.4
	July to August, 1928	
Iowa		
Food and kindred products	−3.4	
Textiles	+2.2	
Iron and steel works	+3.4	
Lumber products	+1.1	
Leather products	−5.3	
Paper products, printing and publishing	−4.3	
Patent medicines, chemicals, and compounds	−4.4	
Stone and clay products	−1.9	
Tobacco and cigars	0	
Railway car shops	+2.1	
Various industries	+2.2	
All industries	+.6	
Maryland		
Food products	[1]	−4.9
Textiles	−1.0	−1.2
Iron and steel and their products	+5.9	+10.1
Lumber and its products	+4.1	+12.7
Leather and its products	+16.8	+21.7
Rubber tires	+8.9	+15.1
Paper and printing	+.1	+7.5

[1] No change.

State, and industry group	Per cent of change, July to August, 1928	
	Employment	Pay roll
Maryland—Continued		
Chemicals and allied products	−1.3	−1.0
Stone, clay, and glass	+16.4	+22.3
Metal products other than iron and steel	+.6	−3.7
Tobacco products	−2.5	+6.8
Machinery (not including transportation equipment)	+1.8	−.3
Musical instruments	+67.0	+35.8
Transportation equipment	−12.1	−21.9
Car building and repairing	+3.8	+11.1
Miscellaneous	+3.0	+10.2
All industries	+2.9	+4.4

State, and industry group	Employment—index numbers (1919–1923=100)	
	July, 1928	August, 1928
Massachusetts		
Boots and shoes	64.7	70.1
Bread and other bakery products	103.1	101.0
Cars and general shop construction and repairs, steam railroads	68.9	70.1
Clothing, men's and women's	83.0	92.4
Confectionery	74.5	81.9
Cotton goods	41.0	42.0
Dyeing and finishing textiles	96.3	95.6
Electrical machinery, apparatus, and supplies	101.5	103.5
Foundry and machine shop products	65.5	65.1
Furniture	96.0	96.2
Hosiery and knit goods	61.3	64.5
Jewelry	101.1	102.0
Leather, tanned, curried, and finished	81.4	82.7
Paper and wood pulp	90.3	91.4
Printing and publishing	104.4	104.0
Rubber footwear	96.9	95.9
Rubber goods, tires, and tubes	85.4	87.2
Silk goods	104.7	104.6
Textile machinery and parts	49.4	48.6
Woolen and worsted goods	80.2	76.3
All industries	72.9	74.2

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Monthly period—Continued

State, and industry group	Per cent of change, June to July, 1928	
	Employment	Pay roll
New Jersey		
Food and kindred products	−3.2	−2.4
Textiles and their products	−1.4	−4.5
Iron and steel and their products	+1.4	+2.0
Lumber and its products	−3.4	−3.6
Leather and its products		−3.5
Tobacco products	+.5	−3.4
Paper and printing	−2.4	−4.5
Chemicals and allied products	+.4	−.7
Stone, clay, and glass products	−3.8	−7.1
Metal products other than iron and steel	+.1	−2.8
Vehicles for land transportation	+1.3	−5.3
Miscellaneous	+1.4	−1.5
All industries	−.1	−2.1
New York		
Stone, clay, and glass	−1.0	−.6
Metals and machinery	−1.7	−4.4
Wood manufactures	−1.6	−2.4
Furs, leather, and rubber goods	+1.9	+2.1
Chemicals, oils, paints, etc	−1.7	−3.2
Paper	+.4	+1.2
Printing and paper goods	−.9	−1.0
Textiles	−3.8	−3.9
Clothing and millinery	−1.3	(1)
Food and tobacco	+5.2	+4.3
Water, light, and power	+.4	+.4
All industries	−.8	−2.0
	July to August, 1928	
Oklahoma		
Cottonseed oil mills	+54.0	+13.6
Food production:		
Bakeries	−2.6	−4.3
Confections	+59.3	+57.6
Creameries and dairies	.0	+9.8
Flour mills	−7.5	−6.3
Ice and ice cream	+42.1	+3.2
Meat and poultry	−5.3	−4.0
Lead and zinc:		
Mines and mills	+19.1	+37.3
Smelters	+4.7	+7.4
Metals and machinery:		
Auto repairs, etc	+10.3	+4.7
Machine shops and foundries	−2.8	+4.5
Tank construction and erection	−19.2	−5.1
Oil industry:		
Producing and gasoline manufacture	+12.4	+26.1
Refineries	+1.0	+13.2
Printing: Job work	+5.7	+9.5
Public utilities:		
Steam railway shops	+.9	.0
Street railways	+1.6	+5.0
Water, light, and power	+3.8	+11.6
Stone, clay, and glass:		
Brick and tile	−4.2	−.4
Cement and plaster	+2.2	+10.1
Crushed stone	+66.6	+38.5
Glass manufacture	−4.6	−12.9

[1] No change.

State, and industry group	Per cent of change, July to August, 1928	
	Employment	Pay roll
Oklahoma—Continued		
Textiles and cleaning:		
Textile manufacture	+7.4	−7.0
Laundries and cleaning	+5.1	−.3
Woodworking:		
Sawmills	+20.1	+14.8
Millwork, etc	+4.6	+7.0
All industries	+5.8	+10.5
	Index numbers (1923–1925=100)	
	July, 1928	August, 1928
	Employment	
Pennsylvania		
Metal products	83.7	87.0
Transportation equipment	69.3	68.4
Textile products	91.6	95.3
Foods and tobacco	96.4	99.6
Stone, clay, and glass products	86.4	86.1
Lumber products	76.8	84.1
Chemical products	93.2	95.1
Leather and rubber products	97.1	97.8
Paper and printing	91.1	93.2
All industries	86.2	88.7
	Pay rolls	
Metal products	76.6	91.4
Transportation equipment	65.1	66.5
Textile products	90.5	98.0
Foods and tobacco	97.0	98.0
Stone, clay, and glass products	78.3	87.3
Lumber products	73.6	86.3
Chemical products	99.4	103.1
Leather and rubber products	100.2	103.8
Paper and printing	101.3	104.5
All industries	81.8	90.9
	Per cent of change, May to June, 1928	
	Employment	Pay roll
Wisconsin		
Manual		
Logging	−2.1	−6.7
Mining	+3.3	+3.0
Stone crushing and quarrying	+10.9	+9.4
Manufacturing:		
Stone and allied industries	+5.9	+10.8
Metal	+2.4	+7.4
Wood	−.3	+2.6

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Monthly period—Continued

State, and industry group	Per cent of change, May to June, 1928	
	Employment	Pay roll
Wisconsin—Continued		
Manufacturing—Continued.		
Rubber	−1.6	+4.0
Leather	−1.4	+1.3
Paper	−1.5	+1.3
Textiles	+.1	+2.4
Foods	+4.3	+7.8
Light and power	+7.9	+6.5
Printing and publishing	−1.0	−1.4
Laundering, cleaning, and dyeing	−.4	+1.5
Chemical (including soap, glue, and explosives)	−3.7	−.5
All manufacturing	+1.1	+4.8
Construction:		
Building	+13.8	+18.9
Highway	+43.6	+33.5
Railroad	+25.6	+33.9
Marine dredging, sewer digging	−13.0	−8.3
Wisconsin—Continued		
Communication:		
Steam railways	+.8	+9.2
Electric railways	−24.4	−21.6
Express, telephone, and telegraph	+9.3	+9.1
Wholesale trade	+2.3	+4.7
Hotels and restaurants	+7.4	
Nonmanual		
Manufacturing, mines, and quarries	−.4	−1.3
Construction	−1.0	−.9
Communication	+2.4	+4.6
Wholesale trade	+3.4	+4.5
Retail trade—Sales force only	−5.5	−7.4
Miscellaneous professional services	+1.1	+2.6
Hotels and restaurants	+3.2	

Yearly period

State, and industry group	Per cent of change, July, 1927, to July, 1928	
	Employment	Payroll
California		
Stone, clay, and glass products	−9.3	−6.9
Metals, machinery, and conveyances	+.3	−2.0
Wood manufactures	−3.6	+2.1
Leather and rubber goods	+10.7	−4.0
Chemicals, oils, paints, etc	−4.9	+2.2
Printing and paper goods	+.4	−5.0
Textiles	−10.4	−8.3
Clothing, millinery, and laundering	−7.3	−7.4
Foods, beverages, and tobacco	−7.3	−7.3
Water, light, and power	+1.2	+3.2
Miscellaneous	−11.6	−1.3
All industries	−3.2	−2.6
New York		
Stone, clay, and glass	−10.4	−8.9
Metals and machinery	−3.9	−2.3
Wood manufactures	−9.7	−9.9
Furs, leather, and rubber goods	−5.0	−7.3
Chemicals, oils, paints, etc	−6.1	−3.0
Paper	−.2	−.7
Printing and paper goods	+1.0	+2.8
Textiles	−3.3	−5.8
Clothing and millinery	−5.0	−6.7
Food and tobacco	−2.8	−1.7
Water, light, and power	−6.5	−6.0
All industries	−4.2	−3.6

State, and industry group	Per cent of change August, 1927, to August, 1928	
	Employment	Pay roll
Oklahoma		
Cottonseed-oil mills	−80.0	−78.6
Food production:		
Bakeries	−3.1	−39.0
Confections	+6.1	−11.8
Creameries and dairies	+16.8	−3.4
Flour mills	−20.6	−21.2
Ice and ice cream	+129.9	+123.9
Meat and poultry	−4.6	+1.6
Lead and zinc:		
Mines and mills	−23.6	−27.6
Smelters	−1.9	−15.9
Metals and machinery:		
Auto repairs, etc	−21.2	−10.1
Machine shops and foundries	−1.6	−1.4
Tank construction and erection	−53.1	−55.1
Oil industry:		
Producing and gasoline manufacture	−15.6	−5.2
Refineries	+9.2	+21.3
Printing: Job work	+1.6	+6.9
Public utilities:		
Steam railway shops	−17.0	−2.9
Street railways	+16.4	+22.1
Water, light, and power	+61.1	+106.1
Stone, clay, and glass:		
Brick and tile	+20.8	+35.2
Cement and plaster	−5.3	+.4
Crushed stone	+6.7	+60.3
Glass manufacture	−7.2	−21.3

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

Yearly period—Continued

State, and industry group	Per cent of change, August, 1927, to August, 1928	
	Employment	Pay roll
Oklahoma—Continued		
Textiles and cleaning:		
Textile manufacture	+53.0	[2]+55.9
Laundries and cleaning	−11.2	−16.2
Woodworking:		
Sawmills	+201.8	+191.7
Millwork, etc	+18.9	+18.2
All industries	+1.3	+7.0
	Index numbers (1923–1925=100)	
	August, 1927	August, 1928
Pennsylvania	Employment	
Metal products	85.7	87.0
Transportation equipment	87.5	68.4
Textile products	96.7	95.3
Foods and tobacco	98.2	99.6
Stone, clay, and glass products	93.1	86.1
Lumber products	89.3	84.1
Chemical products	102.7	95.1
Leather and rubber products	98.4	97.8
Paper and printing	94.7	93.2
All industries	91.1	88.7
	Pay rolls	
Metal products	87.5	91.4
Transportation equipment	88.6	66.5
Textile products	101.2	98.0
Foods and tobacco	100.4	98.0
Stone, clay, and glass products	93.5	87.3
Lumber products	93.3	86.3
Chemical products	101.6	103.1
Leather and rubber products	104.1	103.8
Paper and printing	103.4	104.5
All industries	92.9	90.9

State, and industry group	Per cent of change, June, 1927, to June, 1928	
	Employment	Pay roll
Wisconsin		
Manual		
Agriculture	−20.0	−49.1
Logging	−11.5	−11.1
Mining	−52.5	−47.6
Stone crushing and quarrying	−3.4	−11.9
Manufacturing:		
Stone and allied industries	−2.4	+3.2
Metal	+3.1	+11.1
Wood	−2.2	−.3
Rubber	+1.1	−7.5
Leather	−2.3	−7.0
Paper	−.8	+1.5
Textiles	−11.5	−13.1
Foods	−8.6	−5.7
Light and power	+1.3	+4.0
Printing and publishing	−.4	+.5
Laundering, cleaning, and dyeing	+1.3	+2.7
Chemical (including soap, glue, and explosives)	−13.5	−16.4
All manufacturing	−1.2	+2.5
Construction:		
Building	−21.6	−22.2
Highway	+7.6	+6.2
Railroad	+33.5	+29.8
Marine dredging, sewer digging	+13.5	−6.8
Communication:		
Steam railways	−9.4	+3.1
Electric railways	−35.3	−28.8
Express, telephone and telegraph	+16.9	+19.1
Wholesale trade	+2.0	−5.1
Hotels and restaurants	−2.2	.....
Nonmanual		
Manufacturing, mines, and quarries	−2.3	+.2
Construction	+27.2	+24.3
Communication	+.7	+1.3
Wholesale trade	+13.6	+13.3
Retail trade—sales force only	−5.4	+.7
Miscellaneous professional services	+1.1	−2.5
Hotels and restaurants	−1.8	.....

WHOLESALE AND RETAIL PRICES

Retail Prices of Food in the United States

THE following tables are compiled from monthly reports of actual selling prices [1] received by the Bureau of Labor Statistics from retail dealers.

Table 1 shows for the United States retail prices of food August 15, 1927, and July 15 and August 15, 1928, as well as the percentage changes in the year and in the month. For example, the retail price per pound of butter was 51.4 cents on August 15, 1927; 54.3 cents on July 15, 1928; and 55.4 cents on August 15, 1928. These figures show increases of 8 per cent in the year and 2 per cent in the month.

The cost of the various articles of food combined shows an increase of 1.2 per cent August 15, 1928, as compared with August 15, 1927, and an increase of 0.9 per cent August 15, 1928, as compared with July 15, 1928.

TABLE 1.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE AUGUST 15, 1928, COMPARED WITH JULY 15, 1928, AND AUGUST 15, 1927

(Percentage changes of five-tenths of 1 per cent and over are given in whole numbers)

Article	Unit	Average retail price on—			Per cent of increase (+) or decrease (−) Aug. 15, 1928, compared with	
		Aug. 15, 1927	July 15, 1928	Aug. 15, 1928	Aug. 15, 1927	July 15, 1928
		Cents	*Cents*	*Cents*		
Sirloin steak	Pound	43.7	49.7	51.0	+17	+3
Round steak	do	38.1	43.9	45.1	+18	+3
Rib roast	do	31.7	36.0	36.6	+15	+2
Chuck roast	do	23.9	28.9	29.6	+24	+2
Plate beef	do	15.3	19.1	19.6	+28	+3
Pork chops	do	37.7	37.3	39.9	+6	+7
Bacon	do	46.5	43.9	44.7	−4	+2
Ham	do	54.3	53.4	54.2	−0.2	+1
Lamb, leg of	do	39.2	41.1	40.2	+3	−2
Hens	do	35.4	36.7	36.8	+4	+0.3
Salmon, canned, red	do	32.9	35.3	34.2	+4	−3
Milk, fresh	Quart	14.1	14.1	14.1	0	0
Milk, evaporated	15–16 oz. can	11.6	11.1	11.2	−3	+1
Butter	Pound	51.4	54.3	55.4	+8	+2
Oleomargarine (all butter substitutes)	do	28.0	27.2	27.3	−3	+0.4
Cheese	do	37.0	38.3	38.4	+4	+0.
Lard	do	18.9	18.4	18.7	−1	+2
Vegetable lard substitute	do	25.0	24.9	24.8	−1	−0.4
Eggs, strictly fresh	Dozen	42.0	41.6	45.0	+7	+8
Bread	Pound	9.3	9.2	9.2	−1	0

[1] In addition to monthly retail prices of food and coal, the bureau publishes the prices of gas and electricity from each of 51 cities for the dates for which these data are secured.

TABLE 1.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE AUGUST 15, 1928, COMPARED WITH JULY 15, 1928, AND AUGUST 15, 1927—Continued

(Percentage changes of five-tenths of 1 per cent and over are given in whole numbers)

Article	Unit	Average retail price on—			Per cent of increase (+) or decrease (−) Aug. 15, 1928, compared with	
		Aug. 15, 1927	July 15, 1928	Aug. 15, 1928	Aug. 15, 1927	July 15, 1928
Flour	Pound	5.6	5.6	5.4	−4	−4
Corn meal	do	5.2	5.3	5.3	+2	0
Rolled oats	do	9.0	8.9	8.9	−1	0
Corn flakes	8-oz. pkg.	9.7	9.5	9.5	−2	0
Wheat cereal	28-oz. pkg.	25.5	25.6	25.6	+0.4	0
Macaroni	Pound	20.1	19.8	19.8	−1	0
Rice	do	10.7	10.0	9.9	−7	−1
Beans, navy	do	9.5	12.5	12.6	+33	+1
Potatoes	do	3.4	2.3	2.2	−35	−4
Onions	do	6.4	5.9	5.4	−16	−8
Cabbage	do	4.4	4.3	4.1	−7	−5
Beans, baked	No. 2 can	11.5	11.5	11.6	+1	+1
Corn, canned	do	15.6	15.9	15.9	+2	0
Peas, canned	do	16.7	16.8	16.7	0	−1
Tomatoes, canned	do	12.0	11.6	11.6	−3	0
Sugar	Pound	7.3	7.3	7.1	−3	−3
Tea	do	77.6	77.4	77.4	−0.3	0
Coffee	do	47.4	49.2	49.4	+4	+0.4
Prunes	do	15.5	13.8	13.8	−11	0
Raisins	do	14.3	13.6	13.5	−6	−1
Bananas	Dozen	33.7	32.1	31.6	−6	−2
Oranges	do	53.8	62.6	64.2	+19	+3
Weighted food index					+1.2	+0.9

Table 2 shows for the United States average retail prices of specified food articles on August 15, 1913, and on August 15 of each year from 1922 to 1928, together with percentage changes in August of each of these specified years, compared with August, 1913. For example, the retail price per pound of pork chops was 21.9 cents in August, 1913; 35.1 cents in August, 1922; 32.1 cents in August, 1923; 34.8 cents in August, 1924; 40.0 cents in August, 1925; 40.5 cents in August, 1926; 37.7 cents in August, 1927; and 39.9 cents in August, 1928.

As compared with August, 1913, these figures show increases of 60 per cent in August, 1922; 47 per cent in August, 1923; 59 per cent in August, 1924; 83 per cent in August, 1925; 85 per cent in August, 1926; 72 per cent in August, 1927; and 82 per cent in August, 1928.

The cost of the various articles of food combined showed an increase of 52.8 per cent in August, 1928, as compared with August, 1913.

TABLE 2.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE AUGUST 15 OF CERTAIN SPECIFIED YEARS COMPARED WITH AUGUST 15, 1913

[Percentage change of five-tenths of 1 per cent are given in whole numbers]

Article	Average retail price on Aug. 15—								Per cent of increase Aug. 15 of each specified year compared with Aug. 15, 1913						
	1913	1922	1923	1924	1925	1926	1927	1928	1922	1923	1924	1925	1926	1927	1928
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.							
Sirloin steak..pound..	26.4	39.0	41.1	40.7	42.0	41.8	43.7	51.0	48	56	54	59	58	66	93
Round steak....do....	23.2	34.1	35.5	34.8	36.2	36.2	38.1	45.1	47	53	50	56	56	64	94
Rib roast.....do....	20.2	28.2	29.2	29.1	30.3	30.4	31.7	36.6	40	45	44	50	50	57	81
Chuck roast.....do....	16.5	20.0	20.8	21.0	22.1	22.5	23.9	29.6	21	26	27	34	36	45	79
Plate beef.....do....	12.2	12.6	12.7	13.1	13.9	14.3	15.3	19.6	3	4	7	14	17	25	61
Pork chops.....do....	21.9	35.1	32.1	34.8	40.0	40.5	37.7	39.9	60	47	59	83	85	72	82
Bacon.....do....	28.3	40.6	39.2	38.3	49.3	52.0	46.5	44.7	43	39	35	74	84	64	58
Ham.....do....	28.4	50.8	46.3	46.6	54.9	60.7	54.3	54.2	79	63	64	93	114	91	91
Lamb, leg of....do....	18.9	36.0	37.2	37.3	38.7	39.2	39.2	40.2	90	97	97	105	107	107	113
Hens.....do....	21.5	34.9	34.5	34.8	36.2	37.9	35.4	36.8	62	60	62	68	76	65	71
Salmon, canned, red .....pound..	.....	31.9	31.2	31.2	32.3	38.2	32.9	34.2	.....	.....	.....	.....	.....	.....	.....
Milk, fresh....quart..	8.8	13.0	13.7	13.7	13.9	13.9	14.1	14.1	48	56	56	58	58	60	60
Milk, evaporated 15–16 oz. can..	.....	10.8	12.2	11.1	11.5	11.4	11.6	11.2	.....	.....	.....	.....	.....	.....	.....
Butter.....pound..	35.4	44.2	51.8	48.3	54.1	50.6	51.4	55.4	25	46	36	53	43	45	56
Oleomargarine (all butter substitutes) .....pound..	.....	27.1	28.3	29.6	30.3	30.2	28.0	27.3	.....	.....	.....	.....	.....	.....	.....
Cheese.....do....	22.0	31.8	36.3	34.4	36.8	35.7	37.0	38.4	45	65	56	67	62	68	75
Lard.....do....	16.1	17.2	17.1	19.3	24.3	22.7	18.9	18.7	7	6	20	51	41	17	16
Vegetable lard substitute.....pound..	.....	22.9	22.8	25.2	25.9	25.9	25.0	24.8	.....	.....	.....	.....	.....	.....	.....
Eggs, strictly fresh .....dozen..	33.0	37.1	41.5	44.6	48.9	44.9	42.0	45.0	12	26	35	48	36	27	36
Bread.....pound..	5.6	8.7	8.7	8.8	9.4	9.4	9.3	9.2	55	55	57	68	68	66	64
Flour.....do....	3.3	5.1	4.5	5.1	6.1	6.0	5.6	5.4	55	36	55	85	82	70	64
Corn meal.....do....	3.0	3.9	4.1	4.7	5.4	5.1	5.2	5.3	30	37	57	80	70	73	77
Rolled oats.....do....	.....	8.7	8.8	8.8	9.2	9.0	9.0	8.9	.....	.....	.....	.....	.....	.....	.....
Corn flakes .....8-oz. package..	.....	9.8	9.7	9.6	10.9	10.9	9.7	9.5	.....	.....	.....	.....	.....	.....	.....
Wheat cereal 28-oz. package..	.....	25.7	24.4	24.3	24.6	25.4	25.5	25.6	.....	.....	.....	.....	.....	.....	.....
Macaroni.....pound..	.....	20.0	19.8	19.6	20.4	20.2	20.1	19.8	.....	.....	.....	.....	.....	.....	.....
Rice.....do....	8.7	9.6	9.4	10.2	11.3	11.6	10.7	9.9	10	8	17	30	33	23	14
Beans, navy.....do....	.....	11.3	11.0	9.7	10.3	9.2	9.5	12.6	.....	.....	.....	.....	.....	.....	.....
Potatoes.....do....	1.9	2.6	3.7	2.6	4.4	3.6	3.4	2.2	37	95	37	132	89	79	16
Onions.....do....	.....	5.9	6.5	6.5	8.0	5.9	6.4	5.4	.....	.....	.....	.....	.....	.....	.....
Cabbage.....do....	.....	3.9	4.8	4.3	5.5	4.3	4.4	4.1	.....	.....	.....	.....	.....	.....	.....
Beans, baked .....No. 2 can..	.....	13.4	12.9	12.6	12.4	11.8	11.5	11.6	.....	.....	.....	.....	.....	.....	.....
Corn, canned....do....	.....	15.4	15.4	15.9	18.4	16.4	15.6	15.9	.....	.....	.....	.....	.....	.....	.....
Peas, canned....do....	.....	17.6	17.6	18.2	18.4	17.5	16.7	16.7	.....	.....	.....	.....	.....	.....	.....
Tomatoes, canned .....No. 2 can..	.....	13.6	13.0	13.3	13.7	11.8	12.0	11.6	.....	.....	.....	.....	.....	.....	.....
Sugar, granulated .....pound..	5.6	8.1	9.6	8.2	7.0	7.0	7.3	7.1	45	71	46	25	25	30	27
Tea.....do....	54.4	68.3	69.7	70.9	75.9	77.1	77.6	77.4	26	28	30	40	42	43	42
Coffee.....do....	29.8	36.2	37.6	43.4	50.9	51.0	47.4	49.4	21	26	46	71	71	59	66
Prunes.....do....	.....	20.8	19.0	17.3	17.3	17.2	15.5	13.8	.....	.....	.....	.....	.....	.....	.....
Raisins.....do....	.....	23.2	17.4	15.4	14.4	14.8	14.3	13.5	.....	.....	.....	.....	.....	.....	.....
Bananas.....dozen..	.....	34.2	38.4	35.4	34.5	34.5	33.7	31.6	.....	.....	.....	.....	.....	.....	.....
Oranges.....do....	.....	64.8	50.9	46.1	59.8	50.7	53.8	64.2	.....	.....	.....	.....	.....	.....	.....
All articles combined[1]	.....	.....	.....	.....	.....	.....	.....	.....	37.5	45.1	42.9	59.0	54.3	51.1	52.8

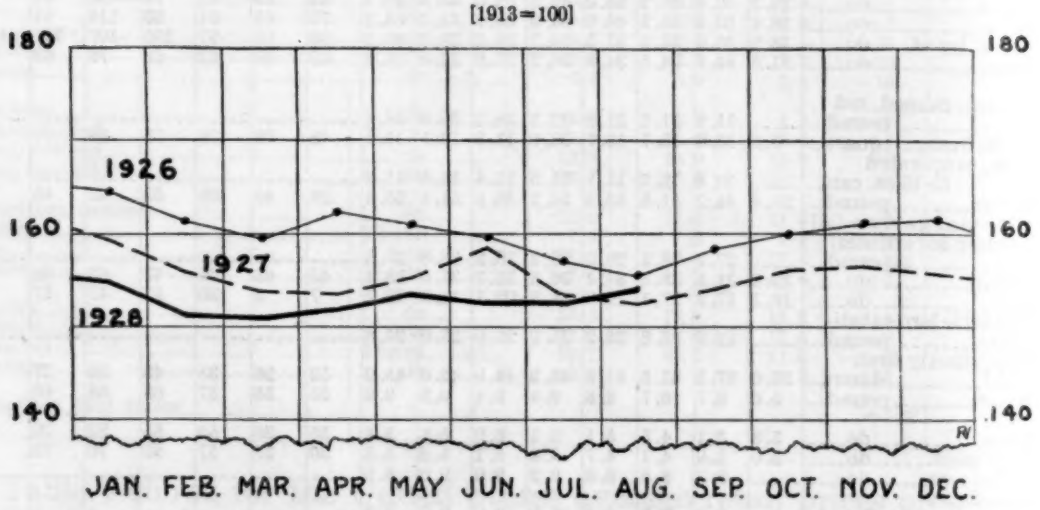
[1] Beginning with January, 1921, index numbers showing the trend in the retail cost of food have been composed of the articles shown in Tables 1 and 2, weighted according to the consumption of the average family. From January, 1913, to December, 1920, the index numbers included the following articles: Sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, lard, hens, flour, corn meal, eggs, butter, milk, bread, potatoes, sugar, cheese, rice, coffee, and tea.

Index Numbers of Retail Prices of Food in the United States

IN TABLE 3 index numbers are given which show the changes in the retail prices of specified food articles, by years, for 1913 and 1920 to 1927,[2] and by months for 1927, and for January through August, 1928. These index numbers, or relative prices, are based on the year 1913 as 100 and are computed by dividing the average price of each commodity for each month and each year by the average price of that commodity for 1913. These figures must be used with caution. For example, the relative price of sirloin steak for the year 1926 was 162.6, which means that the average money price for the year 1926 was 62.6 per cent higher than the average money price for the year 1913. As compared with the relative price, 159.8 in 1925,

TREND OF RETAIL PRICES OF FOOD

[1913=100]



the figures for 1926 show an increase of nearly three points, but an increase of 1.75 per cent in the year.

In the last column of Table 3 are given index numbers showing changes in the retail cost of all articles of food combined. Since January, 1921, these index numbers have been computed from the average prices of the articles of food shown in Tables 1 and 2, weighted according to the average family consumption in 1918. (See March, 1921, issue, p. 25.) Although previous to January, 1921, the number of food articles has varied, these index numbers have been so computed as to be strictly comparable for the entire period. The index numbers based on the average for the year 1913 as 100 are 152.8 for July, 1928, and 154.2 for August, 1928.

The curve shown in the chart on this page pictures more readily to the eye the changes in the cost of the food budget than do the index numbers given in the table.

[2] For index numbers of each month, January, 1913, to December, 1926, see Bulletin No. 396, pp 44-61; Bulletin No. 418, pp. 38-51; and Bulletin No. 445, pp. 36-49.

TABLE 3.—INDEX NUMBERS OF RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD, BY YEARS, 1913, 1920 TO 1927, AND BY MONTHS FOR 1927 AND JANUARY THROUGH AUGUST, 1928

[Average for year 1913=100.0]

Year and month	Sirloin steak	Round steak	Rib roast	Chuck roast	Plate beef	Pork chops	Bacon	Ham	Hens	Milk	Butter	Cheese
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920	172.1	177.1	167.7	163.8	151.2	201.4	193.7	206.3	209.9	187.6	183.0	188.2
1921	152.8	154.3	147.0	132.5	118.2	166.2	158.2	181.4	186.4	164.0	135.0	153.9
1922	147.2	144.8	139.4	123.1	105.8	157.1	147.4	181.4	169.0	147.2	125.1	148.9
1923	153.9	150.2	143.4	126.3	106.6	144.8	144.8	169.1	164.3	155.1	144.7	167.0
1924	155.9	151.6	145.5	130.0	109.1	146.7	139.6	168.4	165.7	155.1	135.0	159.7
1925	159.8	155.6	149.5	135.0	114.1	174.3	173.0	195.5	171.8	157.3	143.1	166.1
1926	162.6	159.6	153.0	140.6	120.7	188.1	186.3	213.4	182.2	157.3	138.6	165.6
1927	167.7	166.4	158.1	148.1	127.3	175.2	174.8	204.5	173.2	158.4	145.2	170.1
1927: January	160.6	158.3	153.0	141.9	124.0	174.3	181.1	211.2	180.8	158.4	152.5	170.1
February	161.0	158.7	153.5	141.9	123.1	171.0	179.6	210.8	180.8	158.4	153.5	170.1
March	161.8	159.6	153.5	142.5	123.1	174.3	179.3	210.0	181.7	158.4	154.6	168.8
April	164.6	163.2	156.1	145.6	125.6	175.7	178.2	210.8	182.6	157.3	152.5	167.9
May	166.5	165.5	157.6	146.9	125.6	173.3	176.3	209.3	180.3	156.2	139.4	167.4
June	166.9	165.9	157.1	146.9	125.6	165.2	174.4	206.3	170.4	156.2	135.2	167.4
July	171.7	170.0	160.1	149.4	126.4	166.2	172.6	203.0	167.1	157.3	134.2	167.0
August	172.0	170.9	160.1	149.4	126.4	179.5	172.2	201.9	166.2	158.4	134.2	167.4
September	172.4	170.9	160.6	150.0	128.1	193.8	172.2	200.0	166.2	158.4	139.4	170.6
October	172.0	170.0	161.1	151.9	130.6	197.6	172.6	199.3	167.6	159.6	145.4	173.3
November	171.3	169.5	161.1	153.1	133.9	172.9	171.5	197.0	167.1	159.6	147.3	174.7
December	172.8	171.3	163.6	156.9	138.0	156.2	167.8	192.9	167.6	160.7	152.5	176.5
1928: January	174.8	173.1	165.2	158.8	142.1	149.0	165.2	192.2	172.8	160.7	150.9	177.4
February	176.4	174.4	167.2	160.6	144.6	140.5	161.9	190.3	174.6	160.7	147.0	177.4
March	176.8	175.3	167.2	161.3	146.3	136.2	159.3	187.7	174.6	159.6	149.6	174.2
April	178.3	177.6	168.7	163.1	147.9	149.0	158.9	188.1	177.0	158.4	143.9	172.9
May	181.5	181.2	172.2	166.3	150.4	168.6	159.6	190.3	177.0	158.4	142.6	172.4
June	186.6	186.5	175.3	172.5	152.9	165.7	160.0	192.2	174.2	157.3	140.7	172.4
July	195.7	196.9	181.8	180.6	157.9	177.6	162.6	198.5	172.3	158.4	141.8	173.3
August	200.8	202.2	184.8	185.0	162.0	190.0	165.6	201.5	172.8	158.4	144.7	173.8

Year and month	Lard	Eggs	Bread	Flour	Corn meal	Rice	Potatoes	Sugar	Tea	Coffee	All articles [1]
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920	186.7	197.4	205.4	245.5	216.7	200.0	370.6	352.7	134.7	157.7	203.4
1921	113.9	147.5	176.8	175.8	150.0	109.2	182.4	145.5	128.1	121.8	153.3
1922	107.6	128.7	155.4	154.5	130.0	109.2	164.7	132.7	125.2	121.1	141.6
1923	112.0	134.8	155.4	142.4	136.7	109.2	170.6	183.6	127.8	126.5	146.2
1924	120.3	138.6	157.1	148.5	156.7	116.1	158.8	167.3	131.4	145.3	145.9
1925	147.5	151.0	167.9	184.8	180.0	127.6	211.8	130.9	138.8	172.8	157.4
1926	138.6	140.6	167.9	181.8	170.0	133.3	288.2	125.5	141.0	171.1	160.6
1927	122.2	131.0	166.1	166.7	173.3	123.0	223.5	132.7	142.5	162.1	155.4
1927: January	126.6	162.0	167.9	169.7	170.0	126.4	235.3	136.4	142.5	168.5	159.3
February	124.1	128.1	167.9	169.7	170.0	124.1	223.5	136.4	142.3	167.4	156.0
March	122.8	102.6	167.9	166.7	170.0	124.1	217.6	134.5	142.6	165.4	153.8
April	120.9	98.3	167.9	166.7	170.0	123.0	217.6	132.7	142.6	163.8	153.6
May	120.3	97.4	167.9	166.7	170.0	121.8	264.7	132.7	142.3	161.7	155.4
June	119.0	97.1	166.1	166.7	173.3	123.0	352.9	132.7	142.1	160.7	158.5
July	119.0	107.0	166.1	166.7	173.3	123.0	247.1	134.5	142.5	159.7	153.4
August	119.6	121.7	166.1	169.7	173.3	123.0	200.0	132.7	142.6	159.1	152.4
September	121.5	141.2	166.1	166.7	173.3	121.8	188.2	130.9	141.9	158.7	154.0
October	124.1	164.1	166.1	166.7	173.3	120.7	176.5	130.9	142.5	159.1	156.1
November	123.4	178.8	166.1	163.6	173.3	119.5	176.5	130.9	142.5	160.4	156.5
December	121.5	172.8	164.3	163.6	173.3	118.4	176.5	129.1	142.1	161.4	155.9
1928: January	119.6	162.0	164.3	160.6	173.3	117.2	176.5	129.1	142.3	162.8	155.1
February	115.8	124.9	164.3	160.6	173.3	117.2	176.5	129.1	142.1	163.1	151.6
March	112.7	107.2	162.5	160.6	173.3	116.1	200.0	129.1	142.3	163.8	151.4
April	112.7	103.8	162.5	163.6	176.7	114.9	205.9	129.1	141.9	164.1	152.1
May	114.6	108.7	162.5	169.7	176.7	114.9	194.1	130.9	141.9	164.4	153.8
June	115.2	112.5	164.3	172.7	176.7	113.8	170.6	132.7	142.1	165.1	152.6
July	116.5	120.6	164.3	169.7	176.7	114.9	135.3	132.7	142.3	165.1	152.8
August	118.4	130.4	164.3	163.6	176.7	113.8	129.4	129.1	142.3	165.8	154.2

[1] 22 articles in 1913–1920; 43 articles in 1921–1928.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928

[Exact comparisons of prices in different cities can not be made for some articles, particularly meats and vegetables, owing to differences in trade practices]

Article	Atlanta, Ga.			Baltimore, Md.			Birmingham, Ala.			Boston, Mass.			Bridgeport, Conn.		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak..pound..	43.1	46.0	47.3	41.5	48.7	50.7	42.2	49.2	52.0	[1]68.8	[1]73.1	[1]74.0	53.9	58.8	60.5
Round steak....do....	38.9	42.9	42.9	38.5	44.7	46.5	36.3	41.3	44.6	55.7	62.4	63.4	46.4	51.8	54.4
Rib roast.....do....	33.0	36.5	36.1	31.6	35.5	36.6	31.1	34.5	35.2	39.9	43.2	45.3	40.3	43.3	43.6
Chuck roast.....do....	25.0	30.0	29.5	23.4	29.5	30.4	23.8	28.7	29.6	29.2	33.4	34.5	30.4	35.2	35.8
Plate beef.....do....	15.2	19.5	20.0	15.6	19.0	20.1	15.9	18.8	19.3	19.9	21.9	22.0	12.7	16.2	17.1
Pork chops.....do....	35.1	35.8	37.1	37.7	37.5	40.5	34.9	33.5	35.4	40.9	39.7	41.9	41.4	39.5	41.8
Bacon sliced.....do....	44.5	40.8	43.1	42.7	38.9	40.0	48.0	41.8	43.1	44.6	41.3	41.8	51.0	50.5	50.6
Ham, sliced.....do....	56.4	52.5	54.2	57.7	54.4	56.4	55.0	51.6	52.6	59.1	58.9	59.8	57.5	57.9	59.8
Lamb, leg of.....do....	40.3	41.5	41.3	38.9	40.2	39.3	42.2	45.4	45.0	40.3	42.9	40.8	40.8	43.7	42.4
Hens.....do....	33.2	34.4	33.5	37.1	39.7	38.6	33.2	30.7	30.4	38.8	39.8	40.6	39.6	39.9	40.2
Salmon, canned, red ..pound..	34.0	35.6	35.6	29.7	33.8	32.0	33.9	37.0	36.1	32.7	33.5	33.1	31.5	34.1	33.0
Milk, fresh.....quart..	18.0	16.5	16.5	14.0	14.0	14.0	16.3	18.7	18.7	15.0	15.3	15.2	16.0	16.0	16.0
Milk, evaporated ..15–16 oz. can..	13.5	13.2	13.4	11.3	11.0	11.1	12.6	11.9	11.6	12.2	11.6	11.6	11.5	11.5	11.6
Butter.....pound..	52.9	56.5	57.2	55.6	58.8	59.2	55.1	56.4	57.2	52.2	56.3	57.5	52.6	55.6	56.8
Oleomargarine (all butter substitutes) ..pound..	26.2	26.0	26.4	28.1	27.6	27.4	32.2	31.4	31.5	28.3	28.3	28.3	27.4	26.3	26.0
Cheese.....do....	36.2	35.5	35.5	35.5	36.3	37.0	36.5	36.5	37.6	38.6	40.3	40.4	41.0	43.4	43.3
Lard.....do....	19.0	17.6	18.0	17.7	16.5	17.2	19.3	18.5	18.7	19.1	18.3	19.0	18.4	17.8	17.8
Vegetable lard substitute.....pound..	21.9	21.8	22.5	22.4	23.3	23.3	21.7	20.0	19.8	25.2	25.1	25.2	25.2	25.5	25.5
Eggs, strictly fresh ..dozen..	40.6	40.0	43.0	36.4	39.2	41.0	37.5	40.2	42.3	62.4	58.9	64.9	56.7	55.1	63.8
Bread.....pound..	10.8	10.8	10.8	9.9	9.6	9.6	10.3	9.9	10.0	8.5	[illegible]	8.6	8.8	8.8	8.8
Flour.....do....	6.5	6.8	6.7	5.3	5.2	5.1	6.7	6.9	6.7	6.1	[illegible]	5.7	5.7	5.6	5.5
Corn meal.....do....	3.9	4.3	4.3	4.1	4.0	4.0	4.3	4.2	4.3	6.7	6.8	6.9	7.7	7.5	7.5
Rolled oats.....do....	9.3	9.1	9.1	8.2	8.0	8.1	10.1	9.6	9.6	9.1	8.9	8.9	8.5	8.7	8.7
Corn flakes ..8-oz. package..	9.8	9.7	9.7	9.1	8.6	8.6	11.1	10.0	10.0	10.0	9.3	9.3	9.7	9.2	9.2
Wheat cereal ..28-oz. package..	26.8	26.6	26.6	24.4	24.0	24.0	27.7	27.3	27.4	25.2	25.0	25.0	24.8	24.4	24.4
Macaroni.....pound..	21.7	21.3	21.3	19.0	18.9	18.8	18.8	18.3	18.6	22.7	21.6	21.1	22.7	22.3	22.3
Rice.....do....	10.3	9.1	8.9	9.8	8.8	8.9	10.8	9.8	9.4	11.9	11.1	11.2	11.5	10.2	10.2
Beans, navy.....do....	10.2	13.0	13.1	8.2	12.0	12.0	10.2	12.6	12.5	10.4	12.2	12.3	9.6	11.8	11.6
Potatoes.....do....	4.4	3.2	3.2	3.0	1.8	1.8	5.0	3.4	3.3	3.0	2.1	2.2	3.0	2.0	2.1
Onions.....do....	7.7	7.5	7.5	5.7	5.9	4.9	8.6	7.2	7.1	5.9	5.8	5.7	6.7	6.1	5.5
Cabbage.....do....	5.4	4.1	4.9	3.9	3.5	3.7	5.9	4.6	5.0	5.2	6.0	5.4	5.2	5.4	4.7
Beans, baked ..No. 2 can..	11.1	10.7	11.0	10.4	10.8	10.9	11.7	11.5	11.4	13.4	12.6	12.6	11.5	11.6	11.6
Corn, canned....do....	18.2	17.5	17.6	14.4	15.5	15.2	16.1	17.3	16.5	17.9	17.5	17.4	18.1	19.2	19.0
Peas, canned....do....	20.1	19.2	19.2	14.5	14.8	14.7	19.9	20.0	19.6	20.2	19.7	19.6	20.8	21.5	21.3
Tomatoes, canned ..No. 2 can..	11.5	10.2	10.4	10.6	10.1	10.2	11.1	10.0	10.0	11.6	11.9	11.9	13.4	13.5	13.5
Sugar.....pound..	7.6	7.7	7.8	6.4	6.5	6.3	7.8	7.6	7.4	7.2	7.2	7.0	7.1	7.0	7.0
Tea.....do....	103.8	105.9	105.9	73.1	72.3	72.3	96.3	99.7	98.4	74.9	72.4	72.4	60.9	61.0	61.0
Coffee.....do....	49.6	49.0	49.6	42.7	45.1	45.2	51.6	50.6	50.8	52.0	54.3	53.9	45.9	47.5	47.3
Prunes.....do....	17.8	14.4	14.9	13.2	11.5	11.5	19.2	16.2	16.3	15.5	12.6	12.8	16.0	15.1	14.8
Raisins.....do....	16.3	15.0	15.0	13.2	12.7	12.6	14.7	14.5	14.5	13.4	12.2	12.4	14.3	13.5	13.3
Bananas.....dozen..	27.5	27.8	27.2	26.4	23.7	23.7	37.3	38.9	36.7	41.5	44.0	41.7	35.0	33.1	33.3
Oranges.....do....	51.6	62.7	63.4	55.6	60.5	63.8	50.9	62.7	61.4	61.2	68.0	69.3	63.1	71.8	73.8

[1] The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

Article	Buffalo, N. Y.			Butte, Mont.			Charleston, S. C.			Chicago, Ill.			Cincinnati, Ohio		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak..pound..	44.1	48.8	52.4	32.9	35.2	35.6	33.4	38.3	38.2	46.9	53.8	57.9	39.6	46.6	47.1
Round steak....do....	37.5	41.9	45.4	30.6	34.1	33.8	30.7	37.0	35.7	38.0	45.1	49.0	35.6	42.8	44.1
Rib roast.....do....	32.0	35.2	36.4	29.0	31.0	31.8	27.0	31.7	31.1	35.9	40.1	41.4	31.1	36.4	36.2
Chuck roast....do....	24.8	29.3	30.9	21.5	24.1	24.1	20.9	25.2	25.2	25.7	32.5	33.5	22.6	27.7	28.1
Plate beef.....do....	14.2	18.1	18.3	12.9	16.0	15.9	15.0	17.7	17.9	15.0	19.2	20.2	15.8	20.1	20.5
Pork chops.....do....	42.3	39.3	43.6	35.5	35.5	37.5	34.7	34.3	34.9	36.8	37.3	41.1	37.4	35.1	38.9
Bacon, sliced....do....	42.2	40.0	41.4	55.4	49.6	50.8	39.3	36.7	37.9	50.1	47.9	47.8	40.9	39.1	37.1
Ham, sliced.....do....	53.0	51.4	53.9	60.0	54.6	55.8	50.3	46.4	47.6	54.4	53.6	55.7	54.4	52.6	50.2
Lamb, leg of....do....	34.8	37.3	37.0	38.9	39.5	37.8	40.0	42.9	42.5	39.1	41.4	40.7	36.1	41.7	40.1
Hens.....do....	36.5	38.1	37.9	32.9	35.0	35.4	35.1	37.5	37.2	36.2	38.4	38.8	35.5	38.2	38.2
Salmon, canned, red .....pound..	31.3	34.6	31.8	31.9	32.7	31.6	30.2	34.8	32.2	34.7	37.2	36.2	31.2	35.6	34.7
Milk, fresh.....quart..	13.0	13.0	13.0	14.0	14.0	14.0	19.0	18.7	18.7	14.0	14.0	14.0	13.3	14.0	14.0
Milk, evaporated .....15-16 oz. can..	11.3	10.7	10.9	11.2	10.5	10.6	11.8	11.4	11.5	11.3	10.9	10.9	11.3	10.9	11.0
Butter.....pound..	51.2	53.9	55.0	49.2	51.3	54.1	49.8	51.8	52.2	50.3	52.8	54.1	49.5	55.5	56.5
Oleomargarine (all butter substitutes) .....pound..	28.0	27.7	27.3	----	----	----	29.8	28.7	28.7	27.0	26.7	26.8	27.7	27.7	27.8
Cheese.....do....	38.0	39.2	39.4	36.5	37.7	38.8	33.6	35.6	35.8	42.0	43.2	43.4	36.4	39.4	40.2
Lard.....do....	17.7	17.0	17.9	23.2	21.3	21.9	20.6	19.0	19.0	19.1	18.6	19.0	17.1	16.8	17.6
Vegetable lard substitute.....pound..	25.7	25.5	25.6	29.7	30.3	30.3	21.7	21.6	21.2	26.3	26.1	26.2	25.9	26.0	25.8
Eggs, strictly fresh .....dozen..	43.1	42.3	46.8	46.8	45.5	47.4	40.0	40.9	42.4	42.3	44.0	45.9	40.3	38.3	41.9
Bread.....pound..	8.7	8.7	8.7	9.8	9.8	9.8	10.9	11.0	11.0	9.9	9.6	9.9	8.9	8.7	8.6
Flour.....do....	5.1	5.1	4.9	5.5	5.8	5.6	6.9	7.0	6.9	5.2	5.1	4.7	5.8	5.9	5.8
Corn meal.....do....	5.1	5.1	5.1	6.0	6.3	6.3	4.0	4.0	3.9	6.6	7.0	7.2	4.2	4.7	4.6
Rolled oats.....do....	8.7	8.8	8.9	7.5	8.1	8.3	9.5	9.5	9.4	8.5	8.5	8.4	8.8	8.9	8.9
Corn flakes .....8-oz. package..	9.5	9.0	9.0	10.4	10.3	10.6	10.2	9.8	9.8	9.5	9.3	9.3	9.3	9.3	9.4
Wheat cereal .....28-oz. package..	24.6	24.9	24.8	28.5	28.7	28.9	25.8	25.6	26.0	25.1	25.1	25.1	24.8	24.9	25.0
Macaroni.....pound..	21.1	21.3	21.2	19.5	19.7	20.0	18.4	18.4	18.5	19.0	19.0	19.0	18.4	18.1	18.4
Rice.....do....	10.2	9.8	9.7	11.2	11.1	11.3	7.2	6.7	6.5	11.2	10.6	10.5	9.9	9.7	10.0
Beans, navy....do....	8.9	12.3	13.2	10.1	10.9	11.3	9.6	13.2	13.4	9.7	12.6	12.7	8.6	13.2	13.2
Potatoes.....do....	2.7	1.9	1.9	2.9	2.6	2.3	3.6	1.7	1.8	3.6	2.6	2.4	3.7	2.7	2.6
Onions.....do....	7.0	6.8	6.1	6.1	6.7	5.3	7.3	6.5	6.3	6.4	6.1	5.6	5.8	5.9	5.0
Cabbage.....do....	4.4	4.0	4.1	5.1	7.5	5.8	5.2	4.2	4.7	4.2	4.4	4.0	4.4	4.0	3.7
Beans, baked .....No. 2 can..	10.0	10.2	10.3	14.0	13.6	13.8	10.0	10.2	10.5	13.0	12.9	12.9	10.4	10.6	10.7
Corn, canned....do....	15.4	16.0	15.6	15.5	14.8	15.0	14.4	14.8	14.8	16.0	16.1	16.1	14.9	15.5	15.5
Peas, canned....do....	15.9	15.7	15.4	14.1	14.1	14.5	16.5	16.4	16.2	16.8	17.1	17.2	16.8	17.5	17.6
Tomatoes, canned .....No. 2 can..	13.3	12.5	13.0	13.3	12.8	13.5	10.2	9.8	9.8	13.9	13.6	13.6	11.9	11.8	11.6
Sugar.....pound..	6.9	6.9	6.8	8.7	8.5	8.5	6.7	6.7	6.5	7.1	7.0	6.9	7.5	7.4	7.3
Tea.....do....	67.6	68.5	68.1	82.2	83.1	83.1	82.4	82.8	82.8	73.5	69.2	69.2	75.5	79.8	79.7
Coffee.....do....	45.4	46.8	46.1	53.8	55.2	55.9	44.0	45.2	45.2	47.9	47.8	47.7	42.6	44.9	45.1
Prunes.....do....	14.2	13.9	13.8	15.4	14.8	15.0	13.6	11.0	11.1	17.3	15.1	15.4	15.4	13.3	13.4
Raisins.....do....	13.5	12.7	12.9	15.0	14.4	14.5	14.6	12.4	12.4	15.2	14.3	14.3	14.6	14.3	14.3
Bananas.....dozen..	40.9	37.8	36.1	[1]13.1	[1]12.0	[1]11.4	25.0	21.5	23.3	39.2	39.0	36.6	36.1	35.6	35.6
Oranges.....do....	56.9	61.8	63.9	53.9	61.6	63.0	42.9	60.0	63.3	57.8	64.7	62.2	51.4	60.0	63.5

[1] Per pound.

12270°—28——12

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

Article	Cleveland, Ohio			Columbus, Ohio			Dallas, Tex.			Denver, Colo.			Detroit, Mich.		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak...pound..	43.1	52.1	53.1	41.7	47.5	48.9	37.7	43.2	43.6	35.5	43.0	43.8	44.3	51.9	53.5
Round steak...do....	36.7	45.6	46.3	37.1	42.7	44.5	34.1	40.6	40.6	32.8	39.8	39.7	37.9	43.2	44.4
Rib roast...do....	30.1	35.8	36.4	32.2	36.4	37.3	28.8	33.6	35.0	25.6	32.5	32.8	32.9	37.6	38.5
Chuck roast...do....	24.7	31.9	32.0	26.0	30.5	31.5	23.7	27.5	28.4	20.9	27.0	27.4	25.1	30.4	31.3
Plate beef...do....	14.2	19.9	19.8	16.6	20.8	22.3	17.7	21.8	22.1	12.2	16.1	16.0	15.1	19.5	20.1
Pork chops...do....	39.5	39.0	42.4	36.2	34.4	37.7	35.6	36.1	37.7	34.9	34.2	38.5	40.3	39.5	44.2
Bacon, sliced...do....	45.8	43.7	44.5	48.2	45.3	46.4	46.2	43.4	43.4	46.2	42.0	44.7	48.2	46.1	46.4
Ham, sliced...do....	53.8	56.4	57.7	54.2	50.3	53.8	57.1	56.1	55.7	51.8	53.8	54.0	58.4	57.6	59.7
Lamb, leg of...do....	38.5	40.8	39.8	44.4	46.7	45.5	45.0	45.0	47.0	37.0	38.7	38.3	40.7	44.0	41.2
Hens...do....	36.2	37.4	37.5	36.0	38.8	39.0	30.7	32.7	33.0	29.4	30.3	31.1	36.9	38.3	38.7
Salmon, canned, red ...pound..	33.6	35.4	33.6	36.3	38.0	38.1	35.9	38.1	37.7	33.8	37.7	34.9	33.5	35.3	32.8
Milk, fresh...quart..	14.0	13.3	13.3	12.0	11.0	11.0	13.0	12.3	12.3	12.0	12.0	12.0	14.0	14.0	14.0
Milk, evaporated ...15-16 oz. can..	11.4	11.2	11.2	11.5	11.1	11.2	13.1	13.3	13.3	10.7	10.2	10.4	11.4	10.8	10.8
Butter...pound..	53.9	57.2	58.8	50.6	53.2	55.1	50.2	55.9	56.9	43.7	48.5	49.5	51.9	54.3	54.9
Oleomargarine (all butter substitutes) ...pound..	29.2	28.5	28.6	27.7	27.1	27.1	30.5	28.3	28.3	24.9	24.4	24.5	26.6	24.9	25.7
Cheese...do....	38.7	40.1	40.0	36.1	37.1	37.6	36.8	38.5	38.5	37.1	40.3	40.0	39.1	39.7	39.7
Lard...do....	20.3	19.5	20.2	16.6	15.6	15.9	23.4	21.1	21.5	19.0	18.7	18.6	18.9	18.3	18.5
Vegetable lard substitute...pound..	26.8	26.8	26.8	26.5	27.1	27.5	23.7	23.9	24.2	22.6	21.9	21.7	26.7	26.4	26.4
Eggs, strictly fresh ...dozen..	43.9	45.1	49.7	33.6	34.9	40.1	35.3	36.8	38.1	37.5	36.5	38.7	40.9	43.3	46.6
Bread...pound..	7.7	7.8	7.8	7.7	7.6	7.6	9.5	9.3	9.3	8.0	8.1	8.1	8.5	8.2	8.2
Flour...do....	5.7	5.9	5.7	5.3	5.4	5.2	5.5	5.5	5.6	4.4	4.5	4.2	5.4	5.3	5.2
Corn meal...do....	5.7	6.0	5.9	3.7	4.2	4.4	4.5	4.5	4.8	4.5	4.5	4.5	6.0	6.1	6.1
Rolled oats...do....	9.4	9.4	9.2	9.3	9.1	9.2	10.5	10.0	10.2	7.6	7.6	7.6	9.5	9.2	9.1
Corn flakes ...8-oz. package..	9.7	9.9	10.0	9.7	9.6	9.8	10.6	10.2	10.2	9.6	9.6	9.5	9.8	9.1	9.2
Wheat cereal ...28-oz. package..	25.7	25.8	25.9	26.4	26.9	27.1	27.2	27.8	27.6	24.6	24.4	24.8	25.5	25.4	25.4
Macaroni...pound..	21.7	21.1	21.2	21.0	20.8	20.4	21.5	21.8	21.8	19.7	19.4	19.4	22.4	21.7	21.8
Rice...do....	11.3	10.2	10.3	12.1	11.6	11.8	11.6	11.3	11.9	9.9	9.0	9.0	11.8	11.4	11.1
Beans, navy...do....	8.7	12.3	12.1	8.5	14.1	13.9	11.0	13.4	13.1	10.6	12.1	12.3	8.6	13.2	13.1
Potatoes...do....	3.2	2.2	2.2	3.4	2.1	2.1	5.6	4.0	4.2	3.2	2.4	1.6	2.9	1.8	1.9
Onions...do....	6.3	6.3	5.6	7.2	6.7	6.4	7.9	5.5	5.6	6.1	6.0	4.8	5.9	5.2	4.8
Cabbage...do....	4.7	4.8	4.6	4.6	4.5	3.9	6.4	5.4	5.5	2.2	3.9	2.3	3.3	4.1	4.3
Beans, baked ...No. 2 can..	12.9	12.6	12.4	12.6	11.7	11.7	13.2	11.9	12.1	11.0	11.9	11.8	11.5	11.5	11.5
Corn, canned...do....	16.9	17.2	17.4	14.1	14.8	14.8	18.6	18.4	18.4	14.1	14.3	14.1	16.2	15.7	15.7
Peas, canned...do....	18.2	17.6	17.4	14.7	14.8	14.9	22.1	21.5	21.5	14.8	15.3	15.0	16.9	16.3	16.1
Tomatoes, canned ...No. 2 can..	14.1	13.9	14.0	13.3	12.3	11.9	12.6	11.8	12.1	12.0	12.0	12.0	12.5	12.1	12.0
Sugar...pound..	7.5	7.7	7.6	7.8	7.7	7.6	8.0	7.9	7.6	7.8	7.5	7.7	7.5	7.5	7.3
Tea...do....	81.6	81.0	81.0	90.2	86.1	86.1	107.5	104.3	104.4	69.2	70.0	70.0	75.5	75.2	76.1
Coffee...do....	50.3	52.5	52.5	48.6	49.0	49.3	56.7	58.2	58.3	48.9	49.7	50.2	48.3	48.9	49.0
Prunes...do....	15.2	13.8	13.6	17.0	15.3	15.1	20.7	17.9	18.4	15.7	14.9	15.0	17.1	14.0	14.6
Raisins...do....	14.7	13.6	13.7	14.6	13.9	13.7	16.5	15.4	15.0	14.0	13.3	12.3	15.0	13.6	13.5
Bananas...dozen..	[1]10.3	[2] 9.4	[2] 9.4	38.6	34.0	33.0	35.0	35.0	40.0	[1]10.9	[2] 9.3	[2] 9.5	33.9	33.0	30.8
Oranges...do....	56.0	66.6	68.1	56.2	62.6	65.8	53.2	61.2	61.6	44.6	58.2	57.8	56.9	64.8	66.4

[1] Per pound.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

Article	Fall River, Mass.			Houston, Tex.			Indianapolis, Ind.			Jacksonville, Fla.			Kansas City, Mo.		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak..pound..	[3] 66.3	[3] 74.4	[3] 75.2	35.0	38.3	38.0	41.4	49.4	49.8	35.4	38.8	40.0	38.7	47.8	48.2
Round steak....do....	49.7	57.2	59.4	33.2	37.5	37.5	39.1	47.8	47.3	31.7	34.5	34.6	34.7	42.7	42.7
Rib roast.....do....	34.4	40.2	41.5	27.1	30.7	30.0	30.4	35.0	36.5	27.1	29.3	30.5	27.5	33.7	33.5
Chuck roast....do....	25.1	31.6	31.5	21.6	24.6	24.6	25.2	30.5	32.0	19.8	22.9	23.3	20.1	26.6	27.0
Plate beef.....do....	13.9	19.2	19.4	17.8	20.0	20.0	15.7	20.1	22.2	12.5	14.7	15.3	13.9	18.9	19.2
Pork chops.....do....	37.0	38.1	39.5	33.6	33.5	34.0	36.1	37.8	42.9	32.9	31.5	31.8	35.5	34.9	39.0
Bacon, sliced....do....	43.6	42.2	41.7	46.5	41.0	41.0	42.4	43.2	43.2	42.8	38.7	38.3	44.6	43.0	44.7
Ham, sliced....do....	53.9	51.5	51.5	52.1	47.3	48.0	52.5	54.6	55.0	51.4	48.0	50.0	51.7	52.5	54.2
Lamb, leg of....do....	42.3	43.6	42.5	34.3	34.0	34.0	42.5	42.0	42.0	36.2	40.0	40.0	36.5	36.8	37.5
Hens.....do....	42.7	44.1	45.6	32.9	30.2	31.9	36.3	40.2	40.3	32.9	32.1	31.3	30.1	32.5	32.2
Salmon, canned, red .....pound..	34.8	36.2	36.1	30.8	34.4	32.2	33.5	32.8	33.4	33.8	34.1	33.6	35.5	37.0	35.4
Milk, fresh....quart..	15.0	13.7	14.7	15.6	15.0	15.0	12.0	12.0	12.0	20.3	20.3	20.3	13.0	13.0	13.0
Milk, evaporated .....15-16 oz. can..	12.7	12.4	12.3	11.6	10.6	10.8	10.8	10.4	10.7	11.9	11.2	11.3	11.7	11.1	11.2
Butter.....pound..	51.9	55.6	56.7	47.9	51.6	52.1	50.4	53.9	54.8	51.8	54.8	55.2	48.4	52.3	52.6
Oleomargarine (all butter substitutes) .....pound..	30.5	25.9	26.0	27.8	25.2	25.5	29.4	29.2	29.5	30.9	30.1	30.3	25.5	25.1	25.3
Cheese.....do....	40.4	41.5	41.9	33.5	34.0	33.9	37.2	40.5	41.0	34.5	35.8	35.8	35.9	37.6	37.3
Lard.....do....	18.1	17.8	18.0	21.3	19.4	19.2	16.8	16.3	17.1	21.1	18.9	19.4	19.0	18.9	19.0
Vegetable lard substitute.....pound..	26.4	27.1	27.1	16.8	15.8	15.5	27.4	26.5	26.6	22.5	21.3	21.3	27.4	26.1	25.8
Eggs, strictly fresh .....dozen..	56.3	53.3	62.7	35.5	35.0	37.4	33.1	35.2	38.7	46.1	40.4	47.2	33.7	36.8	38.0
Bread.....pound..	9.2	8.7	8.9	8.5	8.2	8.2	8.1	7.9	7.9	10.9	10.1	10.1	9.6	9.6	9.6
Flour.....do....	5.8	5.9	5.8	5.1	5.4	5.2	5.5	5.4	5.3	6.6	6.7	6.5	5.2	5.3	5.0
Corn meal.....do....	6.7	6.9	7.1	4.3	4.1	4.2	4.2	4.1	4.1	4.3	4.3	4.3	4.9	5.3	5.4
Rolled oats.....do....	9.4	9.5	9.5	8.9	8.7	8.4	8.3	9.0	8.8	9.3	9.4	9.2	9.0	9.0	9.1
Corn flakes .....8-oz. package..	10.1	10.2	10.0	9.5	8.6	8.4	9.4	9.3	9.3	10.0	9.6	9.6	10.1	9.7	9.7
Wheat cereal .....28-oz. package..	25.0	25.3	25.3	25.0	25.1	25.1	25.1	25.2	25.7	24.8	24.1	24.0	26.7	26.9	26.9
Macaroni.....pound..	24.2	22.9	22.6	18.6	18.1	18.2	19.7	19.6	19.3	19.4	18.6	18.6	19.9	20.0	20.2
Rice.....do....	11.0	11.2	10.7	9.0	7.5	7.5	10.7	11.2	11.2	9.6	7.7	8.0	9.9	9.2	9.2
Beans, navy....do....	10.6	12.8	12.4	10.1	12.7	12.7	8.7	14.1	14.2	9.6	12.3	12.2	9.6	12.9	13.1
Potatoes.....do....	2.8	2.2	1.8	5.0	3.5	4.0	3.3	2.6	2.1	4.3	2.9	2.9	2.3	1.5	1.3
Onions.....do....	7.0	6.3	6.1	7.0	4.7	4.6	7.3	6.9	5.7	7.9	7.9	7.3	7.0	5.9	5.5
Cabbage.....do....	4.7	4.9	4.8	5.4	4.5	4.9	4.6	4.3	3.4	4.9	5.2	4.8	4.1	2.3	2.4
Beans, baked .....No. 2 can..	12.1	12.0	12.2	11.0	10.1	10.6	10.3	9.8	11.3	10.7	10.6	10.4	12.3	12.1	12.2
Corn, canned....do....	16.5	17.3	17.2	13.9	13.8	14.1	13.9	14.5	14.0	17.8	17.7	17.7	14.2	14.7	14.9
Peas, canned....do....	18.1	19.2	19.5	13.7	14.3	14.3	13.7	15.2	15.2	17.8	18.5	17.4	14.9	15.2	15.2
Tomatoes, canned .....No. 2 can..	13.2	12.1	12.3	10.6	9.9	9.8	13.0	11.9	12.0	10.1	9.7	9.8	11.4	11.2	11.1
Sugar.....pound..	7.2	7.1	7.1	6.9	7.1	7.0	7.5	7.6	7.6	7.6	7.4	7.2	7.6	7.7	7.5
Tea.....do....	63.8	58.2	59.6	84.7	83.3	83.3	87.9	85.8	85.8	98.9	98.9	98.9	89.1	93.9	93.2
Coffee.....do....	48.7	50.4	50.6	40.9	43.2	43.3	47.4	47.7	48.7	47.3	48.1	48.1	48.7	52.4	52.2
Prunes.....do....	14.8	13.4	13.4	15.4	13.3	13.0	18.5	16.5	17.2	16.8	15.6	16.1	16.4	14.3	14.6
Raisins.....do....	13.8	13.2	13.3	14.5	13.2	12.9	15.2	14.5	14.7	14.7	14.5	14.5	14.9	14.6	14.6
Bananas.....dozen..	[2] 9.6	[2] 9.0	[2] 8.3	26.2	25.0	25.4	30.5	31.7	30.6	31.0	28.3	26.7	[2] 10.1	[2] 10.1	[2] 10.1
Oranges.....do....	54.0	61.9	69.3	45.6	47.9	50.7	50.8	59.7	62.7	60.0	104.0	104.0	50.2	59.6	63.2

[2] Per pound.

[3] The steak for which prices are here quoted is called "rump" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

Article	Little Rock, Ark.			Los Angeles, Calif.			Louisville, Ky.			Manchester, N. H.			Memphis, Tenn.		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak...pound	36.5	44.5	45.0	37.6	41.9	42.6	37.5	46.5	46.9	[1]62.4	[1]68.7	[1]70.4	38.6	46.4	48.1
Round steak...do	34.5	40.2	40.4	30.8	34.2	35.1	33.3	41.5	41.9	48.6	55.3	54.9	35.8	43.2	44.2
Rib roast...do	28.0	34.6	34.5	29.0	33.4	33.9	27.5	33.4	33.9	29.7	35.4	36.2	27.3	32.5	33.7
Chuck roast...do	22.5	27.1	27.9	20.1	23.8	24.7	21.3	26.7	27.7	24.9	30.2	30.8	21.0	27.7	29.1
Plate beef...do	16.7	20.2	20.5	13.6	16.8	16.8	17.7	20.8	21.3	16.9	22.3	22.7	17.2	21.2	21.8
Pork chops...do	33.6	33.4	34.6	45.8	46.3	45.6	35.6	35.8	37.2	36.9	36.5	38.5	32.4	32.6	34.8
Bacon, sliced...do	46.9	44.5	44.3	54.7	51.5	52.4	46.9	44.2	44.6	39.0	38.1	38.5	39.8	37.2	37.0
Ham, sliced...do	50.8	49.5	52.2	66.4	69.0	70.0	50.4	49.2	51.5	46.3	46.0	46.8	53.5	52.1	52.7
Lamb, leg of...do	40.8	40.6	42.0	36.1	37.5	37.5	41.3	36.0	38.6	39.1	41.3	38.9	37.9	37.5	38.0
Hens...do	28.3	29.2	29.4	40.3	42.1	42.0	33.3	35.9	35.7	42.5	42.8	42.6	29.8	29.4	29.9
Salmon, canned, red ...pound	32.1	36.5	35.2	31.3	33.6	31.6	31.3	35.5	35.2	33.3	34.9	34.0	31.6	33.4	33.4
Milk, fresh...quart	15.0	14.0	14.0	15.0	15.0	15.0	12.0	12.0	12.0	14.8	15.0	15.0	15.0	15.0	15.0
Milk, evaporated ...15-16 oz. can	12.0	11.7	11.9	10.3	9.6	9.9	12.0	11.6	11.8	12.9	12.5	12.7	11.8	11.6	11.4
Butter...pound	50.5	52.9	54.5	51.6	54.1	56.0	51.4	55.2	56.1	53.8	56.4	57.0	51.2	54.7	54.8
Oleomargarine (all butter substitutes) ...pound	27.5	27.2	27.3	26.2	25.3	25.3	27.4	27.0	27.3	25.8	27.4	28.1	25.7	24.4	24.4
Cheese...do	36.8	37.4	37.2	38.1	38.1	38.4	37.0	37.2	37.9	36.6	38.6	39.4	34.3	36.4	35.8
Lard...do	21.5	21.1	20.8	19.6	19.9	20.5	18.0	17.5	18.4	17.8	17.8	18.4	16.5	16.5	16.9
Vegetable lard substitute...pound	20.9	20.5	19.1	24.4	24.1	24.3	28.0	27.8	27.4	25.8	26.2	25.6	21.8	21.1	20.9
Eggs, strictly fresh ...dozen	37.1	38.1	41.7	41.9	40.9	45.0	33.8	37.9	39.0	55.0	53.0	59.5	35.5	38.0	39.8
Bread...pound	9.2	9.3	9.3	8.4	8.9	8.9	9.2	9.2	9.2	8.7	8.7	8.7	9.5	9.5	9.5
Flour...do	6.1	6.3	6.1	5.2	5.4	5.3	6.0	6.7	6.1	5.8	6.0	5.7	6.1	6.4	6.1
Corn meal...do	4.1	4.2	4.2	5.4	5.9	5.8	4.2	4.2	4.2	5.2	5.2	5.3	4.1	3.9	3.8
Rolled oats...do	10.0	10.2	10.2	10.0	10.1	10.1	8.5	8.6	8.6	9.1	8.9	8.9	9.0	8.8	8.7
Corn flakes ...8-oz. package	10.2	9.8	9.8	9.4	9.4	9.4	9.5	9.4	9.5	9.5	9.2	9.2	9.9	9.8	9.8
Wheat cereal ...28-oz. package	25.9	27.0	27.1	24.8	25.0	25.0	25.0	26.7	26.7	25.6	25.6	25.4	26.0	25.8	25.8
Macaroni...pound	20.2	20.1	20.1	18.3	18.0	18.1	18.7	18.6	18.9	23.8	23.2	23.5	19.3	19.5	19.5
Rice...do	8.8	7.9	7.7	10.2	10.2	10.1	11.2	11.1	11.0	10.1	9.2	9.0	8.8	8.4	8.0
Beans, navy...do	8.5	12.2	12.5	10.0	12.3	12.1	8.3	12.8	13.0	9.2	12.9	12.9	8.9	12.5	12.6
Potatoes...do	4.9	2.3	2.3	3.7	1.9	2.3	2.8	2.4	1.6	2.8	1.8	1.9	4.9	2.7	2.7
Onions...do	7.2	4.8	5.0	5.8	4.3	4.2	6.3	5.6	4.6	5.8	6.0	5.7	5.8	4.9	4.6
Cabbage...do	5.5	3.7	4.4	5.1	3.9	3.6	5.0	3.3	3.5	3.3	6.4	4.6	4.7	3.6	3.6
Beans, baked ...No. 2 can	10.5	11.2	11.2	11.0	11.3	11.3	10.2	10.7	10.8	13.2	13.1	13.1	11.2	10.8	11.0
Corn, canned...do	16.6	16.3	15.8	15.8	16.1	15.9	15.2	15.3	15.3	16.1	16.0	16.4	14.8	14.9	14.2
Peas, canned...do	17.6	17.0	17.0	16.9	17.1	17.3	14.8	15.5	15.5	17.3	17.9	17.6	15.8	16.1	15.5
Tomatoes, canned ...No. 2 can	10.7	9.8	9.8	[4]15.0	[4]15.0	[4]15.0	11.1	10.3	10.3	12.7	11.9	12.1	9.9	9.8	9.7
Sugar...pound	7.9	7.9	7.6	7.0	7.0	6.7	7.5	7.6	7.3	7.3	7.3	7.3	7.1	7.2	7.0
Tea...do	107.4	103.3	102.4	74.9	75.7	75.7	90.7	89.2	89.2	63.5	65.2	65.2	98.6	99.1	97.6
Coffee...do	51.3	53.4	54.0	51.4	53.8	53.9	47.6	49.3	50.8	47.7	52.1	51.9	47.6	48.9	49.9
Prunes...do	17.1	15.2	15.2	14.0	12.7	11.9	16.9	15.8	16.0	14.1	12.8	12.9	14.7	14.3	13.5
Raisins...do	15.5	15.1	14.8	12.6	12.3	11.5	14.6	14.3	14.2	14.0	13.3	13.3	14.7	14.7	14.6
Bananas...dozen	[2]9.0	[2]7.5	[2]7.5	[2]9.6	[2]8.2	[2]7.4	[2]9.5	[2]9.5	[2]8.8	[2]9.2	[2]8.2	[2]7.7	[2]8.5	[2]7.7	[2]7.1
Oranges...do	47.3	57.1	59.0	55.0	60.0	55.5	46.2	53.9	56.4	58.5	63.9	68.1	49.2	56.6	61.2

[1] The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.
[2] Per pound.
[4] No. 2½ can.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

Article	Milwaukee, Wis.			Minneapolis, Minn.			Mobile, Ala.			Newark, N. J.			New Haven, Conn.		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak..pound..	41.3	45.7	49.0	36.6	43.5	44.2	35.4	39.4	42.2	48.8	55.6	58.2	58.3	62.9	64.8
Round steak....do....	36.8	41.5	44.2	32.3	37.8	39.3	34.6	38.9	40.9	46.4	52.2	53.8	46.7	49.6	53.7
Rib roast.....do....	29.4	33.7	34.7	29.2	33.4	33.7	29.2	32.0	31.1	37.6	42.5	42.9	38.4	40.5	42.7
Chuck roast.....do....	25.7	29.9	31.1	24.2	28.9	28.8	22.5	26.7	27.2	25.1	32.5	33.5	28.5	31.9	34.7
Plate beef.....do....	15.2	18.7	20.0	13.6	18.3	17.6	17.3	20.6	20.9	13.2	18.9	19.3	16.7	18.7	18.9
Pork chops.....do....	36.7	37.3	39.7	34.0	36.8	38.3	36.7	35.0	35.6	38.5	38.5	42.1	38.2	38.4	41.4
Bacon, sliced....do....	46.3	44.5	45.7	46.3	45.5	46.7	46.1	40.8	41.0	45.7	44.0	43.6	45.5	44.8	46.6
Ham, sliced.....do....	49.0	48.4	49.9	53.1	50.5	52.3	52.7	47.9	50.5	53.5	56.3	56.9	58.0	60.5	61.5
Lamb, leg of....do....	39.8	41.8	41.2	35.9	37.3	37.9	41.4	39.2	40.0	39.0	42.5	40.2	40.5	43.5	42.0
Hens.....do....	31.7	32.3	33.3	30.7	32.6	34.3	34.2	32.4	32.0	36.8	38.3	38.3	40.7	42.5	42.5
Salmon, canned, red ..pound..	32.8	33.4	33.4	36.0	37.4	36.8	31.2	35.3	35.6	30.2	33.5	32.1	31.2	34.8	34.8
Milk, fresh.....quart..	11.0	11.0	11.0	11.0	12.0	12.0	17.8	18.0	18.0	15.0	16.0	16.0	16.0	16.0	16.0
Milk, evaporated ..15-16 oz. can..	11.2	10.8	10.8	11.7	11.5	11.6	11.7	11.1	11.2	11.3	10.8	10.8	12.1	11.7	11.8
Butter.....pound..	48.4	51.7	52.9	47.3	50.8	52.7	52.4	54.4	54.9	52.6	55.9	56.9	52.1	54.6	55.0
Oleomargarine (all butter substitutes) ..pound..	26.3	26.2	26.0	25.2	25.6	25.5	29.3	29.9	30.2	29.1	29.1	29.1	29.8	29.6	29.3
Cheese.....do....	35.5	37.0	37.1	35.9	37.2	36.8	36.1	37.0	36.8	39.5	39.8	40.0	39.2	41.4	40.9
Lard.....do....	19.1	18.3	18.7	18.1	18.3	18.7	19.3	18.3	18.5	19.5	18.1	18.3	18.5	18.6	18.8
Vegetable lard substitute.....pound..	26.7	26.5	26.4	26.6	27.3	27.0	20.0	20.5	20.8	25.6	25.5	25.5	25.6	26.1	26.1
Eggs, strictly fresh ..dozen..	36.6	36.3	38.9	33.1	35.8	38.2	40.7	35.8	39.2	48.8	49.3	52.4	56.6	56.8	61.4
Bread.....pound..	9.0	8.8	8.7	8.9	8.9	8.9	10.1	10.1	10.1	9.5	9.1	9.1	9.2	9.1	9.0
Flour.....do....	5.1	5.0	4.8	5.2	5.3	5.1	6.1	6.4	6.4	5.6	5.5	5.4	5.6	5.7	5.5
Corn meal.....do....	5.7	5.7	5.7	5.4	5.3	5.2	4.1	4.1	4.1	6.5	6.9	6.9	6.8	6.5	6.6
Rolled oats.....do....	8.3	8.4	8.4	7.9	8.0	7.8	8.4	8.3	8.2	8.4	8.4	8.0	9.3	9.2	9.4
Corn flakes ..8-oz. package..	9.1	9.2	9.2	10.1	9.7	9.8	9.5	9.3	9.3	8.8	8.8	8.6	10.1	9.8	9.8
Wheat cereal ..28-oz. package..	24.7	24.6	24.6	25.6	25.3	25.3	24.4	24.4	24.5	24.1	24.8	24.8	24.8	25.4	25.3
Macaroni.....pound..	17.6	17.5	17.7	18.9	18.4	18.2	20.6	21.3	21.2	21.5	21.4	21.4	22.2	21.9	22.3
Rice.....do....	10.5	10.0	10.1	10.5	9.5	9.8	10.0	8.7	8.8	10.8	9.8	9.9	10.8	10.1	10.2
Beans, navy....do....	8.5	13.1	13.2	9.5	13.5	13.6	8.8	11.6	11.6	9.8	12.0	12.3	9.5	11.5	12.0
Potatoes.....do....	3.1	2.1	1.9	2.2	1.5	1.0	4.8	2.6	2.6	3.0	2.4	2.3	2.8	2.2	2.2
Onions.....do....	6.4	5.6	5.1	6.6	6.4	5.3	6.4	4.7	4.5	6.1	6.1	5.7	6.9	6.7	6.2
Cabbage.....do....	3.6	4.5	3.3	2.8	2.4	2.5	5.3	4.2	4.2	5.0	5.0	5.2	4.4	5.8	4.7
Beans, baked ..No. 2 can..	10.8	11.4	11.4	12.1	12.3	12.2	10.5	10.1	10.3	10.8	10.6	10.6	11.1	11.7	11.9
Corn, canned....do....	15.2	15.9	16.0	13.2	15.0	14.4	15.7	15.6	15.7	15.2	17.3	17.1	18.6	18.1	18.1
Peas, canned....do....	15.1	16.0	16.0	14.1	15.1	14.8	15.6	15.7	15.9	15.8	17.2	17.3	18.9	20.5	20.2
Tomatoes, canned ..No. 2 can..	13.5	13.1	13.0	13.4	13.3	13.3	10.8	9.9	9.9	11.2	10.5	10.5	13.2	13.0	13.0
Sugar.....pound..	7.0	7.1	7.0	7.5	7.5	7.2	7.1	7.1	7.0	6.9	6.8	6.6	7.2	7.0	7.0
Tea.....do....	71.2	68.4	68.4	60.8	62.1	62.3	77.8	78.1	81.0	62.8	59.1	59.0	57.4	59.9	59.5
Coffee.....do....	42.1	45.0	45.0	50.5	53.2	52.9	47.5	48.3	48.5	45.8	49.4	49.1	49.3	51.9	51.6
Prunes.....do....	15.5	13.9	13.6	15.5	14.0	14.0	16.6	14.9	14.5	14.5	12.9	13.1	15.6	13.5	13.1
Raisins.....do....	14.6	14.1	13.9	14.9	14.3	14.1	14.2	13.4	13.3	14.3	13.4	13.0	14.0	13.5	13.7
Bananas.....dozen..	[1] 9.3	[1] 8.8	[1] 8.5	[1] 10.7	[1] 9.7	[1] 9.3	23.9	25.0	24.3	37.5	37.0	37.0	35.9	34.2	33.5
Oranges.....do....	50.8	63.1	64.1	57.0	59.1	65.4	49.3	56.3	56.0	57.4	68.0	69.8	61.0	71.5	73.9

[1] Per pound.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

Article	New Orleans, La.			New York, N. Y.			Norfolk, Va.			Omaha, Nebr.			Peoria, Ill.		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Sirloin steak..pound..	37.6	42.6	43.6	49.5	53.5	56.0	42.2	46.9	48.8	40.1	47.1	49.5	36.1	43.5	42.5
Round steak....do....	33.0	38.3	38.7	47.1	50.6	52.8	36.5	41.8	43.6	37.8	45.5	47.5	34.8	42.3	41.0
Rib roast.....do....	31.4	35.0	36.0	41.1	44.5	45.3	33.4	37.5	38.0	27.4	32.1	33.4	25.5	33.2	33.1
Chuck roast....do....	21.6	25.5	26.9	26.7	30.0	31.6	23.3	27.8	29.0	22.9	29.6	30.7	22.6	28.6	27.7
Plate beef.....do....	17.2	19.7	20.9	21.0	23.8	24.3	16.2	18.4	18.0	12.8	16.5	17.2	15.0	19.3	19.2
Pork chops.....do....	37.4	36.5	38.4	40.5	40.5	43.7	36.2	34.0	36.1	35.7	34.4	37.5	33.2	33.5	34.0
Bacon, sliced....do....	46.2	41.9	43.8	48.0	46.7	47.0	44.3	41.9	42.7	48.9	46.1	47.4	50.8	44.6	45.4
Ham, sliced.....do....	50.4	49.0	52.1	58.7	57.8	59.4	47.8	46.0	46.5	53.8	51.6	54.1	54.2	50.4	51.2
Lamb, leg of....do....	39.3	39.8	40.5	38.3	40.2	38.6	41.7	46.7	45.8	37.9	40.6	39.0	42.5	39.9	42.3
Hens.....do....	35.1	34.4	35.0	38.4	39.4	39.2	35.9	36.2	35.7	29.6	31.9	31.8	32.9	32.7	32.4
Salmon, canned, red ....pound..	37.1	35.9	36.9	31.2	34.3	33.2	33.9	37.5	36.9	34.4	36.2	36.0	33.5	36.8	33.8
Milk, fresh.....quart..	14.0	14.0	14.0	15.0	15.5	16.0	17.5	18.0	18.0	10.8	11.3	11.3	13.0	13.0	13.0
Milk, evaporated ....15–16 oz. can..	11.2	10.8	10.9	11.1	10.7	10.7	11.7	11.2	11.5	11.8	11.4	11.4	11.4	11.1	11.1
Butter.....pound..	52.0	54.9	55.9	52.6	54.5	56.0	55.3	57.9	58.4	48.4	49.7	50.4	47.3	49.2	50.8
Oleomargarine (all butter substitutes) ....pound..	28.7	28.3	28.4	27.6	27.6	27.6	26.8	25.0	25.0	26.2	25.8	26.0	27.7	27.6	27.6
Cheese.....do....	36.9	38.9	38.5	38.6	41.0	40.5	35.2	35.2	35.1	36.3	36.5	36.1	36.2	37.6	37.3
Lard.....do....	19.3	18.3	18.4	19.7	19.2	19.4	18.8	17.7	18.1	19.6	19.3	19.8	18.8	18.1	18.4
Vegetable lard substitute.....pound..	18.5	19.7	20.2	25.9	25.9	25.9	23.0	21.3	21.2	25.9	25.5	25.6	27.1	27.4	27.4
Eggs, strictly fresh ....dozen..	40.6	39.2	41.4	52.6	49.8	54.6	40.5	42.5	45.0	30.9	34.1	35.4	33.0	34.6	37.4
Bread.....pound..	8.8	8.9	8.8	9.7	8.7	8.7	9.9	9.9	9.9	9.7	9.7	9.6	10.0	10.0	10.0
Flour.....do....	6.7	7.1	6.9	5.7	5.5	5.3	5.7	5.9	5.7	4.6	4.5	4.3	5.3	5.3	5.1
Corn meal.....do....	4.2	4.0	4.1	6.5	6.6	6.5	4.6	4.7	4.8	4.6	4.6	4.6	4.8	4.8	4.8
Rolled oats.....do....	8.9	8.8	8.7	8.7	8.6	8.7	8.7	8.5	8.6	10.1	9.9	9.9	9.2	8.8	8.8
Corn flakes ....8-oz. package..	9.8	9.6	9.5	8.8	8.6	8.7	9.7	9.7	9.7	10.3	10.2	10.1	10.2	9.6	9.6
Wheat cereal ....28-oz. package..	24.5	24.8	24.7	24.0	24.2	24.0	25.0	24.8	25.3	27.9	28.0	28.0	26.3	26.3	26.3
Macaroni.....pound..	10.7	10.8	10.6	20.9	20.8	20.8	19.1	19.0	19.0	21.3	21.2	21.3	18.6	18.9	18.9
Rice.....do....	9.9	9.4	9.1	9.7	9.9	9.9	11.5	11.0	11.0	11.1	11.1	11.0	11.5	10.7	10.3
Beans, navy.....do....	8.6	10.8	10.7	10.0	12.8	12.9	8.2	11.7	11.8	10.2	13.1	13.5	8.9	14.3	13.7
Potatoes.....do....	4.3	2.9	2.9	3.2	2.5	2.4	3.8	2.1	1.9	2.9	1.8	1.5	3.2	2.0	1.7
Onions.....do....	4.9	4.2	4.3	6.5	6.2	5.6	7.0	6.2	5.7	6.9	5.9	4.8	8.3	6.5	6.1
Cabbage.....do....	4.8	4.3	4.1	4.0	4.3	4.5	4.9	3.3	4.1	3.8	1.8	2.1	4.2	3.8	3.2
Beans, baked ....No. 2 can..	10.6	10.9	10.6	10.7	11.4	11.2	9.9	10.0	10.2	13.0	13.3	13.3	11.1	10.5	10.4
Corn, canned....do....	14.8	15.3	15.4	13.9	15.3	15.2	14.7	14.8	15.0	16.4	16.3	16.4	14.4	15.2	15.5
Peas, canned....do....	17.0	17.2	16.8	14.7	15.8	15.0	19.2	18.2	18.1	15.3	15.9	15.9	16.9	16.3	16.3
Tomatoes, canned ....No. 2 can..	10.8	10.3	10.6	11.5	11.0	11.2	9.9	9.7	9.7	12.9	13.4	13.4	12.6	12.2	12.0
Sugar.....pound..	6.8	6.6	6.5	6.6	6.6	6.3	6.9	6.9	6.9	7.7	7.4	7.2	8.4	8.1	8.0
Tea.....do....	78.8	79.8	82.6	66.3	68.0	68.6	95.8	95.1	94.6	77.8	77.2	77.2	70.8	66.7	66.7
Coffee.....do....	35.6	35.5	35.0	44.4	46.0	46.1	47.7	49.5	49.6	53.4	53.7	53.7	47.8	48.8	48.9
Prunes.....do....	17.0	14.5	14.5	13.9	13.3	13.4	16.0	13.3	13.4	16.4	14.6	14.6	17.4	15.4	15.0
Raisins.....do....	13.8	12.7	13.3	13.9	13.4	13.1	14.3	13.7	13.5	15.2	14.5	14.3	14.5	14.3	14.1
Bananas.....dozen..	16.7	16.4	17.1	37.1	37.0	36.1	34.5	34.5	33.5	[1] 10.7	[1] 9.9	[1] 9.6	[1] 9.8	[1] 8.5	[1] 8.4
Oranges.....do....	49.4	57.5	55.6	64.6	71.0	74.2	53.8	63.1	60.7	44.5	52.5	54.9	48.2	57.0	56.9

[1] Per pound.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

Article	Philadelphia, Pa.			Pittsburgh, Pa.			Portland, Me.			Portland, Oreg.		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak, pound	[1] 59.8	[1] 65.9	[1] 66.8	[1] 49.8	55.5	59.4	[1] 66.1	[1] 70.7	[1] 73.2	31.5	35.2	35.0
Round steak, do	46.7	52.6	54.1	42.0	47.7	51.4	49.3	54.1	55.4	28.8	33.1	32.8
Rib roast, do	38.4	42.3	42.6	35.7	40.0	41.0	32.5	35.8	36.2	26.3	29.7	30.0
Chuck roast, do	28.2	34.7	35.8	27.1	32.7	34.9	22.7	27.9	27.5	19.8	23.1	23.5
Plate beef, do	13.7	18.9	19.7	13.8	19.2	20.1	18.7	22.2	22.7	14.2	18.3	18.3
Pork chops, do	43.6	41.0	44.2	42.0	39.9	42.6	38.8	37.6	39.9	36.8	35.8	39.1
Bacon, sliced, do	46.2	42.3	42.9	51.3	47.8	48.9	43.5	41.7	40.8	53.6	50.6	49.1
Ham, sliced, do	57.9	56.3	59.4	60.8	59.4	61.1	55.2	51.3	53.8	56.3	54.4	54.3
Lamb, leg of, do	41.6	43.7	42.0	42.0	43.5	42.6	42.3	42.5	43.4	36.9	37.5	36.2
Hens, do	38.9	41.1	41.4	42.0	44.4	44.8	41.8	42.3	41.8	31.7	34.8	33.2
Salmon, red, do	29.2	32.5	31.9	30.3	34.1	31.8	32.1	35.6	34.4	32.8	34.8	33.3
Milk, fresh, quart	13.0	13.0	13.0	14.0	13.0	14.3	13.8	15.0	15.0	12.0	12.0	12.0
Milk, evaporated, 15–16 oz. can	11.7	11.5	11.5	11.2	10.4	10.5	12.6	12.2	12.3	10.9	10.0	10.0
Butter, pound	55.0	58.1	59.1	53.6	55.1	56.7	54.7	57.1	58.0	51.5	53.3	55.9
Oleomargarine (all butter substitutes), pound	28.3	28.5	28.5	30.0	28.3	28.4	27.5	26.6	26.6	27.3	25.8	25.5
Cheese, do	39.0	42.5	42.2	39.8	41.3	41.8	38.3	39.1	39.5	37.2	38.0	38.7
Lard, do	18.0	17.7	18.1	18.5	18.1	18.5	18.1	17.7	18.3	20.2	19.5	19.7
Vegetable lard substitute, do	25.4	24.7	24.7	27.4	27.1	27.4	26.7	26.2	26.2	28.6	28.3	27.8
Eggs, strictly fresh, dozen	42.4	44.6	48.2	43.4	43.8	47.0	56.9	50.1	62.2	35.1	37.9	38.5
Bread, pound	9.4	9.2	9.1	9.0	9.1	9.1	10.3	10.1	10.1	9.3	9.2	9.2
Flour, do	5.2	5.4	5.3	5.2	5.3	5.2	5.5	5.8	5.5	5.1	5.1	4.9
Corn meal, do	4.7	5.3	5.3	5.8	6.0	6.0	5.0	5.0	5.2	6.1	5.9	6.0
Rolled oats, do	8.8	8.5	8.5	9.0	9.1	9.1	8.0	8.0	8.0	10.4	10.5	10.5
Corn flakes, 8-oz. package	9.4	9.0	8.9	9.8	9.6	9.7	9.6	9.5	9.5	9.5	9.5	9.4
Wheat cereal, 28-oz. package	24.7	25.4	25.2	25.2	25.0	24.7	25.4	25.4	25.6	26.7	26.8	27.0
Macaroni, pound	20.7	20.7	20.7	23.3	22.6	22.8	24.4	23.2	23.2	18.3	18.6	18.5
Rice, do	11.3	10.3	10.4	11.7	11.3	10.8	12.5	11.3	11.4	10.3	10.2	9.6
Beans, navy, do	9.1	11.0	11.1	8.9	12.6	12.5	10.0	12.5	12.6	11.1	12.8	12.8
Potatoes, do	3.3	2.5	2.4	2.9	1.8	2.0	2.9	2.0	2.1	2.8	2.6	2.3
Onions, do	5.5	5.4	4.5	6.5	6.3	6.1	5.7	5.8	5.3	4.5	4.4	3.8
Cabbage, do	4.1	4.6	4.8	4.7	4.3	4.2	3.8	5.7	4.6	3.7	4.1	4.2
Beans, baked, No. 2 can	10.8	11.1	11.1	12.4	12.7	12.8	14.4	14.9	15.2	12.0	12.3	11.8
Corn, canned, do	14.3	14.7	14.8	15.8	16.0	16.0	13.8	14.2	14.2	18.9	17.9	16.9
Peas, canned, do	15.0	15.4	15.6	16.6	17.0	17.0	17.7	17.4	17.4	18.3	17.3	17.1
Tomatoes, canned, do	11.7	11.5	11.6	12.4	11.9	11.9	12.8	11.7	11.8	[4] 16.8	[4] 15.6	[4] 15.3
Sugar, pound	6.7	6.8	6.5	7.3	7.4	7.2	7.3	7.2	7.0	7.3	7.0	6.9
Tea, do	67.6	69.7	70.0	83.3	80.2	81.0	62.2	62.2	62.2	77.1	80.7	79.9
Coffee, do	38.5	44.0	43.1	46.8	49.2	48.9	49.4	52.1	53.2	51.3	53.2	53.3
Prunes, do	13.6	12.8	12.8	16.4	14.4	14.0	14.5	11.6	12.2	11.5	11.2	11.5
Raisins, do	13.6	13.4	13.0	14.3	13.5	13.4	13.4	12.3	12.3	13.6	13.2	13.2
Bananas, dozen	30.0	30.3	28.7	38.3	37.2	33.6	[2] 11.1	[2] 10.3	[2] 10.5	[2] 12.7	[2] 9.3	[2] 9.2
Oranges, do	52.3	66.2	68.7	60.8	68.6	65.4	66.3	68.1	71.5	50.2	60.2	60.8

[1] The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.
[2] Per pound.
[4] No. 2½ can.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

Article	Providence, R. I.			Richmond, Va.			Rochester, N. Y.			St. Louis, Mo.		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
Sirloin steak, pound	[1] 75.3	[1] 80.4	[1] 80.8	42.0	46.0	48.8	43.9	50.4	52.0	39.2	47.4	48.6
Round steak, do	52.5	57.7	58.6	36.6	40.9	43.2	36.3	42.1	44.0	38.0	46.0	46.8
Rib roast, do	40.5	44.3	43.7	32.5	35.2	35.6	32.5	36.8	36.6	30.8	36.2	36.6
Chuck roast, do	31.4	35.9	35.2	23.8	27.1	29.3	25.6	31.7	31.5	22.8	29.0	29.2
Plate beef, do	17.9	22.3	24.0	17.1	19.7	20.4	13.7	17.9	18.1	15.0	19.1	19.7
Pork chops, do	42.0	42.0	44.3	37.8	36.4	39.3	40.9	41.1	44.3	35.0	36.0	39.0
Bacon, sliced, do	42.2	41.3	41.9	42.4	39.9	40.3	41.5	37.9	39.4	42.7	41.3	42.9
Ham, sliced, do	55.6	56.1	56.6	45.8	44.5	45.1	53.7	52.7	55.1	51.3	52.9	53.9
Lamb, leg of, do	41.4	43.3	41.0	43.2	46.4	45.3	38.7	40.6	39.5	37.7	38.8	37.9
Hens, do	39.7	41.7	41.8	33.2	34.0	34.0	38.6	40.4	40.0	31.9	33.6	34.1
Salmon, canned, red, do	32.2	34.2	32.9	34.5	35.4	35.3	31.5	34.8	35.2	33.7	34.7	32.5
Milk, fresh, quart	15.5	15.3	15.7	14.0	14.0	14.0	12.8	12.5	13.0	13.0	13.0	13.0
Milk, evaporated, 15–16 oz. can	12.1	11.5	11.3	12.7	12.1	12.2	11.4	11.2	11.2	10.9	10.0	10.3
Butter, pound	51.4	54.8	55.7	56.0	59.4	59.7	51.6	53.8	54.9	52.7	55.3	57.0
Oleomargarine (all butter substitutes), pound	27.1	26.4	26.6	31.4	29.9	30.0	29.2	28.2	28.4	26.8	26.8	26.9
Cheese, do	36.9	38.9	39.3	36.6	37.2	37.1	36.5	38.7	39.1	36.0	36.8	37.4
Lard, do	18.4	17.6	17.8	18.1	17.2	17.6	17.7	16.9	17.3	15.2	15.2	15.5
Vegetable lard substitute, do	26.5	26.5	26.6	25.9	25.9	25.8	24.3	26.3	26.3	25.8	25.3	25.3
Eggs, strictly fresh, dozen	59.8	53.8	61.4	37.6	37.6	39.4	40.2	40.5	45.5	36.2	36.8	40.0
Bread, pound	9.1	9.0	9.0	9.4	9.1	8.9	9.0	9.0	9.0	9.9	9.6	9.5
Flour, do	6.0	5.9	5.6	5.5	5.7	5.6	5.5	5.6	5.5	5.3	5.4	5.2
Corn meal, do	5.0	5.0	5.1	4.7	4.9	4.9	5.7	6.4	6.4	4.6	4.3	4.3
Rolled oats, do	9.1	9.1	9.0	8.5	8.6	8.5	9.2	9.2	9.2	8.4	8.1	8.1
Corn flakes, 8-oz. package	9.6	9.4	9.5	9.7	9.4	9.5	9.4	9.2	9.1	8.8	8.9	8.8
Wheat, 28-oz. package	24.9	24.8	24.8	25.8	26.0	25.9	24.8	25.6	25.6	24.8	24.8	24.7
Macaroni, pound	23.4	22.6	22.8	20.4	19.9	20.0	19.5	20.6	20.6	19.9	19.2	19.5
Rice, do	10.6	10.3	10.1	12.0	10.7	11.0	10.4	9.5	9.6	10.2	9.8	9.9
Beans, navy, do	10.1	12.5	12.9	9.0	13.0	13.1	8.9	13.1	13.1	8.7	12.4	12.5
Potatoes, do	2.8	1.9	2.0	3.6	2.7	2.4	2.6	1.9	1.9	3.5	2.2	1.7
Onions, do	5.2	5.8	5.2	7.6	6.6	5.5	6.0	5.9	5.0	6.4	5.0	5.3
Cabbage, do	4.8	4.6	4.6	3.9	5.0	5.0	3.3	3.8	3.9	4.1	2.6	2.7
Beans, baked, No. 2 can	11.2	10.9	11.1	10.1	10.4	10.5	10.3	10.2	10.2	10.4	10.3	10.8
Corn, canned, do	16.8	17.1	17.3	14.8	15.2	15.3	15.0	16.4	16.4	15.2	15.3	15.3
Peas, canned, do	18.4	18.2	18.0	18.9	18.1	17.6	17.2	17.4	17.4	15.2	14.7	14.6
Tomatoes, canned, do	13.1	12.9	13.0	10.5	10.7	10.6	13.1	13.9	13.8	11.3	10.5	10.7
Sugar, pound	7.0	7.0	6.8	7.0	7.0	7.0	6.6	6.8	6.6	7.2	7.2	7.1
Tea, do	60.6	60.1	60.4	91.4	89.8	90.6	69.8	70.9	70.9	76.5	76.4	74.9
Coffee, do	48.9	50.9	51.3	45.6	47.1	47.6	41.4	48.3	48.7	45.3	46.8	46.9
Prunes, do	14.8	12.9	13.3	15.4	14.1	14.2	15.8	13.9	14.1	17.4	14.8	15.3
Raisins, do	13.8	13.3	13.5	14.1	13.3	13.3	14.6	14.0	14.0	14.4	13.9	13.6
Bananas, dozen	32.5	31.1	30.7	36.7	35.9	36.4	34.0	31.2	35.0	31.5	31.2	30.7
Oranges, do	65.5	75.1	75.7	53.5	67.0	71.3	54.6	63.1	67.1	51.9	59.3	56.5

[1] The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

Article	St. Paul, Minn.			Salt Lake City, Utah			San Francisco, Calif.			Savannah, Ga.		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak, pound	40.1	44.7	46.6	33.2	37.2	37.8	33.2	37.3	38.1	35.8	41.7	41.1
Round steak, do	34.7	39.0	38.8	30.6	35.8	36.9	30.1	34.7	35.5	30.0	34.4	35.0
Rib roast, do	31.6	35.6	35.6	25.9	28.3	30.2	30.1	33.0	33.7	27.9	31.1	31.1
Chuck roast, do	25.9	29.9	29.9	19.6	23.7	24.5	19.7	22.4	22.9	19.0	23.6	23.3
Plate beef, do	14.7	17.8	17.9	14.2	16.7	17.2	15.1	17.4	18.3	16.3	20.3	19.8
Pork chops, do	32.7	36.0	37.2	35.6	36.4	38.8	42.6	41.6	42.7	32.3	30.3	30.9
Bacon, sliced, do	44.4	44.9	44.7	46.9	44.8	45.2	57.5	54.6	55.5	41.9	38.1	38.2
Ham, sliced, do	48.2	49.4	50.4	57.1	55.8	55.4	63.3	60.7	62.8	45.0	41.5	42.5
Lamb, leg of, do	33.6	36.9	35.4	35.2	38.3	38.2	37.7	39.0	38.6	41.0	40.0	38.8
Hens, do	29.1	30.7	30.8	29.6	32.3	33.3	41.4	41.1	40.7	31.1	30.0	30.3
Salmon, canned, red, do	36.3	39.8	38.0	34.8	34.9	33.7	30.6	32.5	30.3	33.5	35.9	36.0
Milk, fresh, quart	11.0	12.0	12.0	11.0	10.0	10.0	14.0	14.0	14.0	17.0	16.0	17.0
Milk, evaporated, 15–16 oz. can	12.0	11.7	11.7	10.6	10.1	10.1	10.5	9.9	10.0	11.4	11.0	11.2
Butter, pound	46.0	49.3	51.1	48.2	50.2	52.1	53.7	54.5	55.7	52.1	54.5	56.1
Oleomargarine (all butter substitutes), pound	24.8	23.9	24.5	28.0	25.8	25.8	27.0	25.4	25.3	32.2	29.9	30.7
Cheese, do	35.8	36.2	36.5	30.7	30.9	30.9	38.3	40.4	40.2	35.2	34.6	35.2
Lard, do	18.3	18.5	18.8	20.5	20.2	20.1	22.7	22.3	22.6	18.1	17.4	17.4
Vegetable lard substitute, do	28.1	28.3	28.0	29.2	29.0	29.0	28.2	27.3	27.5	17.0	17.3	16.6
Eggs, strictly fresh, dozen	33.8	36.0	38.2	34.0	36.2	37.3	40.7	40.6	41.0	45.9	42.8	44.0
Bread, pound	10.0	9.3	9.3	9.7	9.7	9.7	9.5	9.5	9.5	10.7	10.6	10.6
Flour, do	5.4	5.2	5.1	4.2	4.2	4.1	5.7	5.8	5.6	6.6	6.7	6.5
Corn meal, do	5.2	5.1	5.1	5.6	5.7	5.6	6.5	7.0	6.8	3.7	3.7	3.7
Rolled oats, do	10.2	9.9	10.1	8.8	8.6	8.5	10.0	10.0	10.1	8.6	8.5	8.6
Corn flakes, 8-oz package	10.7	10.1	10.3	10.2	9.8	9.9	10.0	9.7	9.6	9.6	9.5	9.5
Wheat cereal, 28-oz. package	26.4	26.7	26.3	25.5	25.1	25.1	25.3	25.2	25.4	24.3	24.4	24.3
Macaroni, pound	18.7	18.8	18.4	19.9	19.6	19.9	15.8	15.8	16.1	18.2	18.2	17.7
Rice, do	10.5	10.5	10.4	9.6	8.6	8.7	11.5	10.1	10.0	9.7	8.9	9.1
Beans, navy, do	9.5	13.3	13.5	9.5	11.3	11.3	10.3	11.8	12.0	9.4	11.8	12.5
Potatoes, do	2.4	1.7	1.0	2.4	1.7	1.5	3.6	2.7	2.7	3.8	3.3	3.2
Onions, do	7.3	6.0	5.3	5.3	6.4	5.0	4.3	4.4	3.8	6.9	7.1	6.4
Cabbage, do	2.6	3.1	3.0	3.0	3.7	2.8	----	----	----	5.3	4.6	5.0
Beans, baked, No. 2 can	13.6	13.8	13.8	12.9	12.1	12.1	13.0	12.9	12.8	12.1	11.6	11.8
Corn, canned, do	14.3	14.9	14.7	14.4	14.0	14.4	18.2	17.4	17.2	15.2	15.3	15.3
Peas, canned, do	15.3	14.7	14.9	15.5	14.9	15.2	17.9	18.3	18.0	16.7	16.0	16.0
Tomatoes, canned, do	14.3	14.0	14.0	13.9	13.8	13.8	[4] 15.1	[4] 14.2	[4] 14.4	10.0	9.7	9.6
Sugar, pound	7.4	7.5	7.2	8.1	7.8	7.5	7.0	6.8	6.6	6.9	7.1	6.8
Tea, do	68.1	67.0	67.0	86.5	84.6	84.6	72.4	71.4	71.7	81.7	82.3	76.2
Coffee, do	50.8	53.3	53.6	55.1	53.7	54.0	52.0	54.1	54.5	45.5	45.9	45.7
Prunes, do	15.1	13.4	13.2	14.3	12.8	12.9	12.7	11.6	11.5	14.9	12.5	12.5
Raisins, do	15.4	14.5	14.5	13.7	13.2	13.1	13.2	11.9	11.6	14.6	13.3	13.1
Bananas, dozen	[3] 10.3	[3] 10.2	[3] 9.9	[3] 12.8	[3] 12.3	[3] 11.9	31.3	27.8	25.8	29.6	27.0	23.9
Oranges, do	53.4	63.9	65.4	48.3	56.9	58.8	50.3	57.6	57.6	46.9	57.7	63.2

[3] Per pound.

[4] No. 2½ can.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

Article	Scranton, Pa.			Seattle, Wash.			Springfield, Ill.			*Washington, D. C.		
	Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928		Aug. 15, 1927	1928	
		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15		July 15	Aug. 15
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Sirloin steak, pounds	52.6	63.5	63.9	34.7	40.5	40.9	37.1	47.1	46.5	50.1	56.6	58.8
Round steak, do	44.4	52.0	53.9	30.6	36.5	37.0	36.1	46.6	46.5	43.1	49.3	52.4
Rib roast, do	37.8	43.2	44.3	27.7	32.2	32.7	24.4	31.6	32.7	34.8	39.4	40.4
Chuck roast, do	28.7	34.5	34.9	20.5	24.9	25.3	22.6	30.7	30.6	26.4	32.3	33.0
Plate beef, do	13.3	16.2	18.1	15.1	19.2	19.5	14.2	19.5	20.0	13.9	18.4	19.2
Pork chops, do	41.3	40.2	42.7	38.6	39.4	44.5	31.4	33.1	34.8	42.2	40.3	45.3
Bacon, sliced, do	48.3	47.4	48.5	57.0	54.3	56.0	46.3	44.1	44.8	53.8	41.7	43.8
Ham, sliced, do	58.9	57.1	60.8	60.0	60.0	61.1	50.4	51.4	52.9	57.2	57.5	59.7
Lamb, leg of, do	46.4	49.5	48.5	36.6	39.2	38.3	41.3	43.6	42.0	40.7	44.4	41.8
Hens, do	43.4	43.8	44.0	33.2	34.3	35.1	33.0	34.1	33.9	37.1	40.7	40.8
Salmon, canned, red, do	34.0	35.0	35.0	35.8	36.5	35.5	34.4	37.4	37.8	33.1	34.5	34.2
Milk, fresh, quart	12.0	13.0	13.0	12.0	12.0	12.0	14.4	14.4	14.4	15.0	15.0	15.0
Milk, evaporated, 15–16 oz. can	11.9	11.8	11.9	10.6	10.2	10.2	11.7	11.8	11.8	12.1	11.8	12.0
Butter, pound	51.7	56.1	57.3	52.6	53.8	55.9	49.6	53.0	53.7	53.7	57.7	58.7
Oleomargarine (all butter substitutes), pound	28.4	27.3	25.8	27.2	25.1	25.0	27.9	28.3	28.4	28.9	27.6	27.2
Cheese, do	35.4	38.8	39.2	35.1	35.3	35.2	37.4	38.8	38.5	39.1	39.9	40.2
Lard, do	18.9	19.0	19.9	20.7	20.4	20.5	18.0	18.1	18.5	17.8	18.0	18.3
Vegetable lard substitute, do	26.0	26.3	26.0	27.3	27.6	27.3	27.5	27.8	27.5	24.5	24.7	24.7
Eggs, strictly fresh, dozen	44.5	44.2	50.6	37.9	37.5	42.2	33.2	36.0	37.5	42.2	43.7	47.6
Bread, pound	10.7	10.7	10.7	9.7	9.6	9.6	10.3	10.2	10.2	9.1	8.9	8.9
Flour, do	5.9	5.9	5.8	5.0	5.0	4.7	5.6	5.5	5.2	5.8	6.0	5.9
Corn meal, do	7.8	7.7	7.7	5.6	5.6	5.7	4.9	4.7	4.7	5.2	5.2	5.3
Rolled oats, do	9.8	9.9	9.9	8.6	8.5	8.9	10.1	9.9	9.9	9.3	9.1	9.1
Corn flakes, 8-oz. package	10.1	9.9	9.9	10.4	9.7	9.7	10.2	10.0	10.0	9.5	9.4	9.4
Wheat cereal, 28-oz. package	25.1	25.6	25.6	27.5	26.6	26.6	27.3	28.1	28.1	24.4	24.8	24.9
Macaroni, pound	23.1	22.5	22.8	18.1	17.9	17.9	18.9	19.4	19.4	22.6	22.6	22.4
Rice, do	11.2	10.3	10.4	12.0	10.7	10.5	10.9	10.3	10.3	11.5	10.7	10.7
Beans, navy, do	10.6	12.1	11.9	11.1	12.9	13.3	9.1	13.7	14.0	9.0	12.7	12.5
Potatoes, do	2.9	2.0	2.0	3.1	2.0	1.9	3.6	2.3	2.0	3.4	2.3	2.4
Onions, do	6.7	6.9	5.8	5.0	4.4	4.1	6.7	7.1	6.8	6.3	6.6	6.0
Cabbage, do	3.5	4.8	3.8	4.9	4.4	3.9	3.4	3.6	3.4	4.4	4.3	4.4
Beans, baked, No. 2 can	11.4	11.5	11.8	11.9	11.5	11.3	10.3	10.7	10.6	10.0	10.5	10.4
Corn, canned, do	16.8	17.3	17.3	17.1	18.4	18.1	14.5	14.8	15.0	14.3	15.1	15.3
Peas, canned, do	17.2	17.8	17.8	18.3	19.4	18.6	15.9	15.9	15.9	15.9	15.2	15.2
Tomatoes, canned, do	12.2	12.1	12.0	[4]16.7	[4]16.1	[4]16.0	13.6	13.4	13.4	10.1	10.0	10.3
Sugar, pound	7.2	7.1	7.1	7.3	7.1	6.9	7.9	7.9	7.7	6.8	7.0	6.9
Tea, do	71.2	68.1	68.1	75.9	76.0	77.6	83.8	84.6	84.6	91.2	96.3	96.3
Coffee, do	49.1	51.2	50.7	49.0	51.4	52.0	49.7	52.4	52.7	43.0	47.5	47.9
Prunes, do	16.1	14.1	14.0	13.3	12.3	12.5	16.0	14.4	14.1	16.0	14.5	14.5
Raisins, do	14.7	14.0	14.0	14.0	13.1	12.8	15.3	14.3	14.3	14.6	13.8	13.8
Bananas, dozen	32.9	31.2	30.4	[2]12.5	[2]10.1	[2]10.2	[2]10.0	[2]8.4	[2]7.9	31.8	28.2	29.1
Oranges, do	59.5	71.4	74.9	50.0	57.6	58.1	49.0	69.3	70.5	56.8	69.1	72.0

[2] Per pound.

[4] No. 2½ can.

Comparison of Retail Food Costs in 51 Cities

TABLE 5 shows for 39 cities the percentage of increase or decrease in the retail cost of food [3] in August, 1928, compared with the average cost in the year 1913, in August, 1927, and July, 1928. For 12 other cities comparisons are given for the one-year and the one-month periods; these cities have been scheduled by the bureau at different dates since 1913. The percentage changes are based on actual retail prices secured each month from retail dealers and on the average family consumption of these articles in each city.[4]

TABLE 5.—PERCENTAGE CHANGE IN THE RETAIL COST OF FOOD IN AUGUST, 1928, COMPARED WITH THE COST IN JULY, 1928, AUGUST, 1927, AND WITH THE AVERAGE COST IN THE YEAR 1913, BY CITIES

City	Percentage increase August, 1928, compared with—			City	Percentage increase August, 1928, compared with—		
	1913	August, 1927	July, 1928		1913	August, 1927	July, 1928
Atlanta	57.6	0.3	1.3	Minneapolis	51.8	3.3	[1] 0.3
Baltimore	60.6	2.1	1.4	Mobile		[1] 1.4	1.3
Birmingham	59.6	0.6	1.1	Newark	49.4	3.3	0.9
Boston	56.2	1.6	1.3	New Haven	56.4	2.4	1.3
Bridgeport		2.0	2.0	New Orleans	53.5	0.8	1.1
Buffalo	57.8	2.1	1.9	New York	56.9	0.9	1.8
Butte		1.7	0.3	Norfolk		0.5	0.9
Charleston, S. C	53.7	[1] 0.3	0.5	Omaha	47.3	0.9	0.4
Chicago	66.8	1.8	1.3	Peoria		[1] 0.7	[1] 0.7
Cincinnati	58.3	2.5	0.7	Philadelphia	58.1	2.6	0.8
Cleveland	55.4	2.8	1.2	Pittsburgh	56.7	2.4	3.2
Columbus		0.3	2.0	Portland, Me		2.6	2.5
Dallas	54.3	1.2	1.5	Portland, Oreg	39.4	1.9	[1] 0.2
Denver	39.1	2.3	[1] 0.9	Providence	56.9	1.3	1.9
Detroit	62.7	1.6	1.7	Richmond	60.3	1.2	0.9
Fall River	54.4	1.7	2.6	Rochester		4.1	2.1
Houston		[1] 1.4	1.2	St. Louis	55.8	0.1	0.2
Indianapolis	52.4	3.1	0.5	St. Paul		1.1	[1] 0.9
Jacksonville	46.2	[1] 1.3	1.2	Salt Lake City	32.3	0.9	0.5
Kansas City	48.2	2.9	0.2	San Francisco	49.1	0.4	0.5
Little Rock	45.7	[1] 0.4	1.1	Savannah		0.0	0.6
Los Angeles	42.4	1.3	1.8	Scranton	63.1	4.2	1.6
Louisville	51.7	3.5	[1] 0.7	Seattle	45.3	1.7	1.5
Manchester	55.9	2.8	1.3	Springfield, Ill		2.2	[1] 0.3
Memphis	48.5	1.2	0.7	Washington	66.2	4.8	2.5
Milwaukee	56.5	1.2	0.8				

[1] Decrease.

Effort has been made by the bureau each month to have all schedules for each city included in the average prices. For the month of August 99.2 per cent of all the firms supplying retail prices in the 51 cities sent in a report promptly. The following-named 41 cities had a perfect record; that is, every merchant who is cooperating with the bureau sent in his report in time for his prices to be included in the city averages: Atlanta, Baltimore, Birmingham, Bridgeport, Butte, Charleston, S. C., Cincinnati, Cleveland, Columbus, Denver, Detroit, Fall River, Indianapolis, Jacksonville, Little Rock, Los Angeles, Louisville, Manchester, Memphis, Milwaukee, Minneapolis, Mobile, Newark, New Haven, New Orleans, New York, Norfolk, Omaha, Philadelphia, Pittsburgh, Portland, Me., Portland, Oreg.,

[3] For list of articles see note 1, p. 167.

[4] The consumption figures used from January, 1913, to December, 1920, for each article in each city are given in the Labor Review for November, 191:, pp. 94 and 95. The consumption figures which have been used for each month beginning with January, 1921, are given in the Labor Review for March, 1921, p. 26.

Providence, Rochester, St. Louis, St. Paul, San Francisco, Savannah, Scranton, Springfield, Ill., Washington.

The following summary shows the promptness with which the merchants responded in August, 1928:

RETAIL PRICE REPORTS RECEIVED FOR AUGUST, 1928

Item	United States	Geographical division				
		North Atlantic	South Atlantic	North Central	South Central	Western
Percentage of reports received	99.2	99.4	99.4	99.1	99.0	99.0
Number of cities in each section from which every report was received	41	12	7	11	6	5

Retail Prices of Coal in the United States[a]

THE following table shows the average retail prices of coal on January 15 and July 15, 1913, August 15, 1927, and July 15 and August 15, 1928, for the United States and for each of the cities from which retail food prices have been obtained. The prices quoted are for coal delivered to consumers, but do not include charges for storing the coal in cellar or coal bin where an extra handling is necessary.

In addition to the prices for Pennsylvania anthracite, prices are shown for Colorado, Arkansas, and New Mexico anthracite in those cities where these coals form any considerable portion of the sales for household use.

The prices shown for bituminous coal are averages of prices of the several kinds sold for household use.

TABLE 1.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON JANUARY 15 AND JULY 15, 1913, AUGUST 15, 1927, AND JULY 15 AND AUGUST, 15, 1928

City, and kind of coal	1913		1927	1928	
	Jan. 15	July 15	Aug. 15	July 15	Aug. 15
United States:					
Pennsylvania anthracite—					
Stove—					
Average price	**$7.99**	**$7.46**	**$15.15**	**$14.91**	$14.95
Index (1913=100)	**103.4**	**96.6**	**196.1**	**192.9**	193.5
Chestnut—					
Average price	**$8.15**	**$7.68**	**$14.80**	**$14.63**	$14.76
Index (1913=100)	**103.0**	**97.0**	**187.0**	**184.9**	186.5
Bituminous—					
Average price	**$5.48**	**$5.39**	**$8.99**	**$8.69**	$8.74
Index (1913=100)	**100.8**	**99.2**	**165.4**	**159.9**	160.9
Atlanta, Ga.:					
Bituminous	$5.88	$4.83	$7.58	$7.37	$7.43
Baltimore, Md.:					
Pennsylvania anthracite—					
Stove	[1] 7.70	[1] 7.24	[1] 15.75	[1] 15.25	[1] 15.25
Chestnut	[1] 7.93	[1] 7.49	[1] 15.00	[1] 14.75	[1] 14.75
Bituminous			8.18	7.82	7.82

[1] Per ton of 2,240 pounds.

[a] Prices of coal were formerly secured semiannually and published in the March and September issues of the Labor Review. Since June, 1920, these prices have been secured and published monthly.

TABLE 1.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON JANUARY 15 AND JULY 15, 1913, AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

City, and kind of coal	1913		1927	1928	
	Jan. 15	July 15	Aug. 15	July 15	Aug. 15
Birmingham, Ala.:					
Bituminous	$4.22	$4.01	$7.30	$7.05	$7.00
Boston, Mass.:					
Pennsylvania anthracite—					
Stove	8.25	7.50	16.00	15.50	15.75
Chestnut	8.25	7.75	15.75	15.25	15.50
Bridgeport, Conn.:					
Pennsylvania anthracite—					
Stove			14.50	14.50	14.50
Chestnut			14.50	14.50	14.50
Buffalo, N. Y.:					
Pennsylvania anthracite—					
Stove	6.75	6.54	13.74	13.65	13.65
Chestnut	6.99	6.80	13.34	13.25	13.25
Butte, Mont.:					
Bituminous			10.95	10.87	10.87
Charleston, S. C.:					
Bituminous	[1] 6.75	[1] 6.75	11.00	11.00	11.00
Chicago, Ill.:					
Pennsylvania anthracite—					
Stove	8.00	7.80	16.70	16.25	16.25
Chestnut	8.25	8.05	16.20	15.95	15.95
Bituminous	4.97	4.65	9.16	8.35	8.58
Cincinnati, Ohio:					
Bituminous	3.50	3.38	7.10	6.44	6.49
Cleveland, Ohio:					
Pennsylvania anthracite—					
Stove	7.50	7.25	15.05	15.05	15.15
Chestnut	7.75	7.50	14.70	14.62	14.79
Bituminous	4.14	4.14	8.92	8.42	8.42
Columbus, Ohio:					
Bituminous			6.85	6.24	6.21
Dallas, Tex.:					
Arkansas anthracite—					
Egg			14.33	14.75	14.25
Bituminous	8.25	7.21	12.21	12.20	12.40
Denver, Colo.:					
Colorado anthracite—					
Furnace, 1 and 2 mixed	8.88	9.00	15.90	15.80	15.73
Stove, 3 and 5 mixed	8.50	8.50	15.90	15.80	15.73
Bituminous	5.25	4.88	9.78	10.17	10.57
Detroit, Mich.:					
Pennsylvania anthracite—					
Stove	8.00	7.45	15.50	15.50	15.50
Chestnut	8.25	7.65	15.00	15.00	15.00
Bituminous	5.20	5.20	9.21	9.13	9.13
Fall River, Mass.:					
Pennsylvania anthracite—					
Stove	8.25	7.43	16.50	16.00	16.00
Chestnut	8.25	7.61	16.00	15.75	15.75
Houston, Tex.:					
Bituminous			11.60	11.40	11.60
Indianapolis, Ind.:					
Bituminous	3.81	3.70	6.96	6.80	6.87
Jacksonville, Fla.:					
Bituminous	7.50	7.00	12.00	12.00	12.00
Kansas City, Mo.:					
Arkansas anthracite—					
Furnace			13.50	12.60	12.50
Stove No. 4			15.00	14.33	14.25
Bituminous	4.39	3.94	7.90	7.47	7.06
Little Rock, Ark.:					
Arkansas anthracite—					
Egg			13.50	12.50	12.50
Bituminous	6.00	5.33	9.96	9.10	9.10
Los Angeles, Calif.:					
Bituminous	13.52	12.50	15.55	15.00	15.25
Louisville, Ky.:					
Bituminous	4.20	4.00	6.94	6.55	6.59
Manchester, N. H.:					
Pennsylvania anthracite—					
Stove	10.00	8.50	17.25	16.75	17.00
Chestnut	10.00	8.50	17.00	16.33	16.75
Memphis, Tenn.:					
Bituminous	[2] 4.34	[2] 4.22	8.30	6.46	6.36

[1] Per ton of 2,240 pounds.

[2] Per 10-barrel lot (1,800 pounds).

TABLE 1.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON JANUARY 15 AND JULY 15, 1913, AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

City, and kind of coal	1913		1927	1928	
	Jan. 15	July 15	Aug. 15	July 15	Aug. 15
Milwaukee, Wis.:					
Pennsylvania anthracite—					
Stove	$8.00	$7.85	$16.40	$15.95	$15.95
Chestnut	8.25	8.10	15.95	15.65	15.65
Bituminous	6.25	5.71	9.29	9.06	9.06
Minneapolis, Minn.:					
Pennsylvania anthracite—					
Stove	9.25	9.05	17.90	17.95	17.95
Chestnut	9.50	9.30	17.45	17.65	17.65
Bituminous	5.89	5.79	11.16	11.64	11.64
Mobile, Ala.:					
Bituminous	----	----	9.46	9.60	9.46
Newark, N. J.:					
Pennsylvania anthracite—					
Stove	6.50	6.25	13.75	13.70	13.75
Chestnut	6.75	6.50	13.25	13.25	13.25
New Haven, Conn.:					
Pennsylvania anthracite—					
Stove	7.50	6.25	14.65	14.65	14.70
Chestnut	7.50	6.25	14.65	14.65	14.70
New Orleans, La.:					
Bituminous	[2] 6.06	[2] 6.06	9.32	9.21	9.21
New York, N. Y.:					
Pennsylvania anthracite—					
Stove	7.07	6.66	14.08	14.50	14.50
Chestnut	7.14	6.80	13.79	14.00	14.00
Norfolk, Va.:					
Pennsylvania anthracite—					
Stove	----	----	14.50	14.00	14.00
Chestnut	----	----	14.50	14.00	14.00
Bituminous	----	----	8.55	8.55	8.55
Omaha, Nebr.:					
Bituminous	6.63	6.13	9.75	9.10	9.38
Peoria, Ill.:					
Bituminous	----	----	6.96	6.52	6.54
Philadelphia, Pa.:					
Pennsylvania anthracite—					
Stove	[1] 7.16	[1] 6.89	[1] 14.89	[1] 13.96	[1] 13.99
Chestnut	[1] 7.38	[1] 7.14	[1] 14.39	[1] 13.71	[1] 13.71
Pittsburgh, Pa.:					
Pennsylvania anthracite—					
Chestnut	[1] 8.00	[1] 7.44	14.63	14.50	14.50
Bituminous	[3] 3.16	[3] 3.18	5.53	5.12	5.15
Portland, Me.:					
Pennsylvania anthracite—					
Stove	----	----	16.56	16.56	16.56
Chestnut	----	----	16.56	16.56	16.56
Portland, Oreg.:					
Bituminous	9.79	9.66	13.33	12.46	12.38
Providence, R. I.:					
Pennsylvania anthracite—					
Stove	[4] 8.25	[4] 7.50	[4] 16.00	[4] 15.50	[4] 15.50
Chestnut	[4] 8.25	[4] 7.75	[4] 15.75	[4] 15.50	[4] 15.50
Richmond, Va.:					
Pennsylvania anthracite—					
Stove	8.00	7.25	15.50	13.83	14.33
Chestnut	8.00	7.25	15.50	13.83	14.33
Bituminous	5.50	4.94	9.61	8.15	8.76
Rochester, N. Y.:					
Pennsylvania anthracite—					
Stove	----	----	14.35	14.29	14.35
Chestnut	----	----	13.90	13.94	14.00
St. Louis, Mo.:					
Pennsylvania anthracite—					
Stove	8.44	7.74	16.70	16.40	16.40
Chestnut	8.68	7.99	16.25	16.15	16.15
Bituminous	3.36	3.04	7.44	5.95	5.93
St. Paul, Minn.:					
Pennsylvania anthracite—					
Stove	9.20	9.05	17.90	17.95	17.95
Chestnut	9.45	9.30	17.45	17.65	17.65
Bituminous	6.07	6.04	11.40	11.88	11.88

[1] Per ton of 2,240 pounds.
[2] Per 10-barrel lot (1,800 pounds).
[3] Per 25-bushel lot (1,900 pounds).
[4] The average price of coal delivered in bin is 50 cents higher than here shown. Practically all coal is delivered in bin.

TABLE 1.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON JANUARY 15 AND JULY 15, 1913, AUGUST 15, 1927, AND JULY 15 AND AUGUST 15, 1928—Continued

City, and kind of coal	1913		1927	1928	
	Jan. 15	July 15	Aug. 15	July 15	Aug. 15
Salt Lake City, Utah:					
Colorado anthracite—					
Furnace, 1 and 2 mixed	$11.00	$11.50	$18.00	$18.00	$18.00
Stove, 3 and 5 mixed	11.00	11.50	18.00	18.00	18.00
Bituminous	5.64	5.46	7.73	8.48	8.48
San Francisco, Calif.:					
New Mexico anthracite—					
Cerillos egg	17.00	17.00	25.00	25.00	25.00
Colorado anthracite—					
Egg	17.00	17.00	24.50	24.50	24.50
Bituminous	12.00	12.00	15.40	16.00	16.13
Savannah, Ga.:					
Bituminous	----	----	[3] 10.38	[3] 9.80	[3] 9.80
Scranton, Pa.:					
Pennsylvania anthracite—					
Stove	4.25	4.31	10.48	10.28	10.28
Chestnut	4.50	4.56	10.23	10.08	10.08
Seattle, Wash.:					
Bituminous	7.63	7.70	9.77	9.63	9.55
Springfield, Ill.:					
Bituminous	----	----	4.44	4.44	4.44
Washington, D. C.:					
Pennsylvania anthracite—					
Stove	[1] 7.50	[1] 7.38	[1] 15.25	[1] 15.11	[1] 15.11
Chestnut	[1] 7.65	[1] 7.53	[1] 14.73	[1] 14.74	[1] 14.74
Bituminous—					
Prepared sizes, low volatile	----	----	[1] 10.67	[1] 10.33	[1] 10.50
Prepared sizes, high volatile	----	----	[1] 9.00	[1] 8.63	[1] 8.63
Run of mine, mixed	----	----	[1] 7.78	[1] 7.60	[1] 7.60

[1] Per ton of 2,240 pounds.
[3] All coal sold in Savannah is weighed by the city. A charge of 10 cents per ton or half ton is made. This additional charge has been included in the above price.

Index Numbers of Wholesale Prices in August, 1928

THE trend of wholesale prices continued upward in August, according to information collected in representative markets by the Bureau of Labor Statistics of the United States Department of Labor. The bureau's weighted index number, computed on prices in the year 1926 as the base and including 550 commodities or price series, stands at 98.9 for August, compared with 98.3 for July, an increase of over one-half of 1 per cent. Compared with August, 1927, with an index number of 95.2, an increase of nearly 4 per cent is shown.

Among farm products grains declined sharply in price, while livestock and poultry advanced. The group as a whole showed little change from the preceding month. Foods increased appreciably in average prices, due to the upward movement of butter, eggs, milk, fresh and cured meats, and potatoes. Flour prices were considerably below those of July.

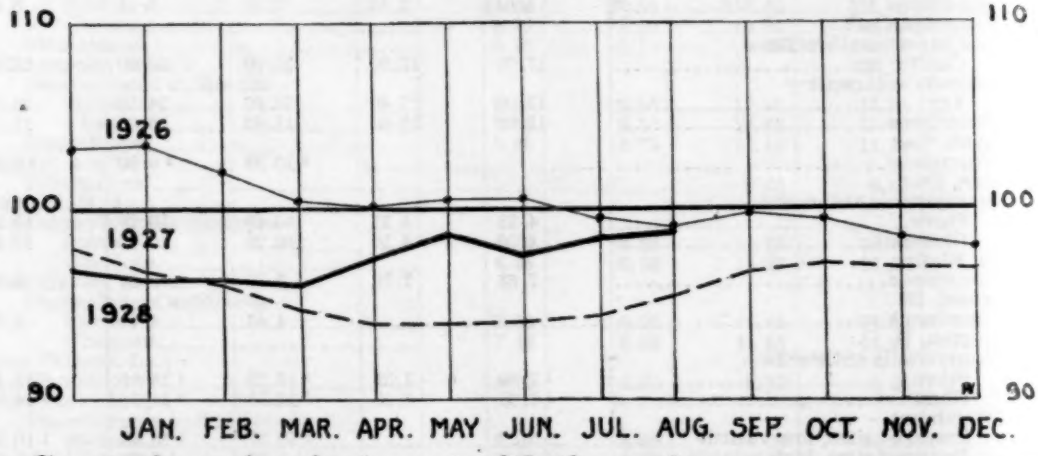
Hides and skins decreased materially, while no change in the general price level is shown for leather and its products. Cotton goods and woolen and worsted goods exhibited a downward tendency in the month. Bituminous coal and petroleum products increased in price, as did most metals and metal products.

Building materials showed little change in the general price level, lumber advancing and brick and paint materials declining, with cement and structural steel remaining at the July price level. But little change is shown for the groups of chemicals and drugs and house-furnishing goods, while a noticeable drop took place in the

group of miscellaneous commodities, due to declines in cattle feed and paper and pulp.

Of the 550 commodities or price series for which comparable information for July and August was collected, increases were shown in 138 instances and decreases in 129 instances. In 283 instances no change in price was reported.

TREND OF WHOLESALE PRICES.
[1926=100]



Comparing prices in August with those of a year ago, as measured by changes in the index numbers, it is seen that farm products, foods, and hides and leather products were considerably higher, while metals and metal products and building materials were somewhat higher. Negligible increases are shown for textile products and fuel and lighting materials. Small decreases between the two periods took place among chemicals and drugs and housefurnishing goods and a considerable decrease among articles classed as miscellaneous.

INDEX NUMBERS OF WHOLESALE PRICES OF COMMODITIES.
[1926=100.0]

Groups and subgroups.	1927, August	1928, July	1928, August	Purchasing power of the 1926 dollar in August, 1928. (cents)
ALL COMMODITIES	95.2	98.3	98.9	101.1
Farm products	102.2	107.1	107.0	93.5
Grains	108.3	111.6	95.4	104.8
Livestock and poultry	98.2	112.1	116.7	85.7
Other farm products	102.8	102.1	104.2	96.0
Foods	94.2	102.3	104.1	96.1
Butter, cheese, and milk	98.8	103.3	107.3	93.2
Meats	90.3	112.7	119.3	83.8
Other foods	95.0	95.5	93.5	107.0
Hides and leather products	111.7	124.2	121.0	82.6
Hides and skins	131.3	155.8	140.6	71.1
Leather	114.3	128.5	128.5	77.8
Boots and shoes	103.3	110.8	110.8	90.3
Other leather products	103.3	108.6	108.6	92.1
Textile products	96.2	96.8	96.3	103.8
Cotton goods	100.2	102.0	101.4	98.6
Silk and rayon	86.6	81.7	81.7	122.4
Woolen and worsted goods	97.3	101.5	101.0	99.0
Other textile products	95.7	89.6	89.1	112.2
Fuel and lighting	84.1	82.8	84.6	118.2
Anthracite coal	95.7	90.5	90.3	110.7
Bituminous coal	101.9	91.4	92.5	108.1
Coke	93.8	84.6	84.9	117.8
Manufactured gas	97.3	94.8	(1)	(1)
Petroleum products	66.5	73.5	76.8	130.2

[1] Data not yet available.

INDEX NUMBERS OF WHOLESALE PRICES OF COMMODITIES—Continued

Groups and subgroups.	1927, August	1928, July	1928, August	Purchasing power of the 1926 dollar in August, 1928. (cents)
Metals and metal products	98.0	98.6	100.4	99.6
Iron and steel	95.1	94.0	94.5	105.8
Nonferrous metals	92.5	92.6	92.9	107.6
Agricultural implements	99.3	98.8	98.8	101.2
Automobiles	102.2	105.1	108.9	91.8
Other metal products	100.7	96.9	96.9	103.2
Building materials	92.9	94.4	94.6	105.7
Lumber	92.2	89.5	90.3	110.7
Brick	93.2	93.2	92.6	108.0
Cement	96.5	96.5	96.5	103.6
Structural steel	91.9	94.5	94.5	105.8
Paint materials	92.5	87.6	86.2	116.0
Other building materials	93.0	104.1	104.4	95.8
Chemicals and drugs	95.4	94.5	94.7	105.6
Chemicals	100.2	100.2	100.5	99.5
Drugs and pharmaceuticals	86.7	70.4	70.3	142.2
Fertilizer materials	91.2	93.0	93.4	107.1
Fertilizers	89.7	97.5	97.4	102.7
House-furnishing goods	98.6	96.9	97.2	102.9
Furniture	97.8	97.4	97.6	102.5
Furnishings	100.0	96.6	96.9	103.2
Miscellaneous	89.9	80.8	79.3	126.1
Cattle feed	125.4	132.4	111.5	89.7
Paper and pulp	92.0	89.2	88.8	112.6
Rubber	71.9	39.8	39.7	251.9
Automobile tires	77.9	61.6	61.6	162.3
Other miscellaneous	100.0	98.4	98.1	101.9
Raw materials	97.5	99.5	99.2	100.8
Semimanufactured articles	97.3	97.8	97.3	102.8
Finished products	93.4	97.8	99.1	100.9
Nonagricultural commodities	93.3	95.9	96.7	103.4

Comparison of Retail-Price Changes in the United States and in Foreign Countries

THE principal index numbers of retail prices published by foreign countries have been brought together with those of this bureau in the subjoined table after having been reduced, in most cases, to a common base, namely, prices for July, 1914, equal 100. This base was selected instead of the average for the year 1913, which is used in other tables of index numbers of retail prices compiled by the bureau, because of the fact that in numerous instances satisfactory information for 1913 was not available. Some of the countries shown in the table now publish index numbers of retail prices on the July, 1914, base. In such cases, therefore, the index numbers are reproduced as published. For other countries the index numbers here shown have been obtained by dividing the index for each month specified in the table by the index for July, 1914, or the nearest period thereto, as published in the original sources. As stated in the table, the number of articles included in the index numbers for the different countries differs widely. These results, which are designed merely to show price trends and not actual differences in the several countries, should not, therefore, be considered as closely comparable with one another. In certain instances, also, the figures are not absolutely comparable from month to month over the entire period, owing to slight changes in the list of commodities and the localities included on successive dates.

INDEX NUMBERS OF RETAIL PRICES IN THE UNITED STATES AND IN OTHER COUNTRIES

Country	United States	Canada	Belgium	Czecho-slovakia	Den-mark	Finland	France (except Paris)	France (Paris)	Germany
Number of localities	51	60	59	Entire country	100	21	320	1	71
Commodities included	43 foods	29 foods	56 (foods, etc.)	29 foods	Foods	36 foods	13 (11 foods)	13 (11 foods)	Foods
Computing agency	Bureau of Labor Statistics	Department of Labor	Ministry of Industry and Labor	Office of Statistics	Government Statistical Department	Central Bureau of Statistics	Ministry of Labor	Ministry of Labor	Federal Statistical Bureau
Base=100	July, 1914	July, 1914	April, 1914	July, 1914	July, 1914	January–June, 1914	August, 1914	July, 1914	October, 1913–July, 1914
1924									
Jan.	146	145	480	836	194	1089	----------	376	127
Feb.	144	145	495	838	----------	1070	400	384	117
Mar.	141	143	510	830	----------	1067	----------	392	120
Apr.	138	137	498	829	----------	1035	----------	380	123
May	138	133	485	825	----------	1037	393	378	126
June	139	133	492	833	----------	1040	----------	370	120
July	140	134	493	837	200	1052	----------	360	126
Aug.	141	137	498	842	----------	1125	400	366	122
Sept.	144	139	503	853	----------	1125	----------	374	125
Oct.	145	139	513	877	----------	1156	----------	383	134
Nov.	147	141	520	889	----------	1160	426	396	135
Dec.	148	143	521	891	----------	1160	----------	404	135
1925									
Jan.	151	145	521	899	215	1130	----------	408	137
Feb.	148	147	517	911	----------	1120	440	410	145
Mar.	148	145	511	904	----------	1152	----------	415	146
Apr.	148	142	506	901	----------	1137	----------	409	144
May	148	141	502	894	----------	1097	433	418	141
June	152	141	505	914	----------	1101	----------	422	146
July	156	141	509	916	210	1145	----------	421	154
Aug.	157	146	517	894	----------	1222	451	423	154
Sept.	156	146	525	884	----------	1187	----------	431	153
Oct.	158	147	533	875	----------	1165	----------	433	151
Nov.	164	151	534	863	----------	1164	471	444	147
Dec.	162	156	534	866	----------	1138	----------	463	146
1926									
Jan.	161	157	527	854	177	1090	----------	480	143
Feb.	158	155	526	845	----------	1106	503	495	142
Mar.	156	154	521	832	----------	1100	----------	497	141
Apr.	159	153	529	832	----------	1085	----------	503	142
May	158	152	558	837	----------	1078	523	522	142
June	156	149	579	861	----------	1090	----------	544	143
July	154	149	637	876	159	1105	----------	574	145
Aug.	152	150	681	878	----------	1153	610	587	146
Sept.	155	147	684	878	----------	1137	----------	590	145
Oct.	157	147	705	888	----------	1126	----------	624	145
Nov.	158	148	730	902	----------	1114	647	628	148
Dec.	158	151	741	912	----------	1110	----------	599	150
1927									
Jan.	156	153	755	914	156	1092	----------	592	151
Feb.	153	151	770	914	----------	1095	586	585	152
Mar.	150	149	771	915	----------	1086	----------	581	151
Apr.	150	146	774	923	152	1069	----------	580	150
May	152	145	776	931	----------	1058	572	589	151
June	155	146	785	949	----------	1072	----------	580	153
July	150	147	790	962	153	1102	----------	557	157
Aug.	149	147	787	919	----------	1159	553	539	150
Sept.	151	146	794	910	----------	1146	----------	532	151
Oct.	153	148	804	907	152	1156	----------	520	152
Nov.	153	149	809	905	----------	1175	526	500	152
Dec.	153	151	812	913	----------	1171	----------	523	153
1928									
Jan.	152	151	813	913	152	1126	----------	530	152
Feb.	148	149	811	910	----------	1112	522	522	151
Mar.	148	147	806	901	----------	1123	----------	524	151
Apr.	149	147	807	905	152	1119	----------	532	151
May	150	145	805	908	----------	1113	530	546	151
June	149	144	811	928	----------	1126	----------	557	152

INDEX NUMBERS OF RETAIL PRICES IN THE UNITED STATES AND IN OTHER COUNTRIES—Continued

Country	Italy	Netherlands	Norway	Sweden	Switzerland	United Kingdom	South Africa	India (Bombay)	Australia	New Zealand
Number of localities	447	6	31	49	33	630	9	1	30	25
Commodities included	20 foods and charcoal	29 (27 foods)	Foods	50 (43 foods, 7 fuel and light)	Foods	21 foods	24 foods	17 foods	46 foods and groceries	59 foods
Computing agency	Ministry of National Economy	Central Bureau of Statistics	Central Bureau of Statistics	Social Board	Labor Office (revised)	Ministry of Labor	Office of Census and Statistics	Labor Office (revised)	Bureau of Census and Statistics	Census and Statistics Office
Base=100	1913	January-June, 1914	July, 1914	July, 1914	July, 1914	July, 1914	1914	July, 1914	July, 1914	July, 1914
1924										
Jan	527	150	230	163	173	175	120	154	155	150
Feb	529	151	234	162	172	177	122	151	153	149
Mar	523	152	241	162	171	176	122	147	152	150
Apr	527	152	240	159	169	167	122	143	150	150
May	530	151	241	159	169	163	122	143	151	150
June	543	151	240	158	170	160	120	147	149	150
July	538	150	248	159	170	162	117	151	148	148
Aug	534	150	257	163	170	164	117	156	147	146
Sept	538	152	261	165	170	166	117	156	146	145
Oct	556	154	264	172	174	172	120	156	146	145
Nov	583	156	269	172	175	179	122	157	147	148
Dec	601	157	274	172	175	180	121	156	148	150
1925										
Jan	609	156	277	170	172	178	120	152	148	147
Feb	609	157	283	170	172	176	120	152	149	146
Mar	610	157	284	171	171	176	121	155	151	149
Apr	606	155	276	170	169	170	124	153	152	149
May	600	154	265	169	168	167	123	151	154	150
June	602	152	261	169	169	166	122	149	155	149
July	605	152	260	169	169	167	120	152	156	151
Aug	619	152	254	170	169	168	119	147	156	152
Sept	642	152	241	168	170	170	118	146	156	153
Oct	645	149	228	166	168	172	119	148	157	155
Nov	652	149	223	165	168	172	117	149	156	156
Dec	653	148	221	164	167	174	116	151	155	154
1926										
Jan	658	148	216	162	165	171	116	151	155	154
Feb	649	147	212	160	163	168	117	150	154	153
Mar	636	147	205	159	161	165	118	151	159	152
Apr	633	146	198	158	161	159	119	150	163	151
May	643	146	195	157	159	158	119	150	163	151
June	647	146	194	157	159	158	118	152	162	151
July	645	146	198	156	159	161	117	155	159	149
Aug	648	146	196	156	157	161	117	153	157	150
Sept	656	149	193	157	158	162	117	152	155	148
Oct	662	148	191	157	160	163	120	153	153	147
Nov	655	148	186	158	159	169	119	152	155	146
Dec	641	146	184	157	159	169	117	154	158	149
1927										
Jan	629	147	180	156	158	167	116	155	158	148
Feb	615	146	177	153	157	164	117	152	153	146
Mar	610	146	173	151	156	162	118	152	151	146
Apr	606	145	169	151	156	155	119	151	151	145
May	599	145	169	150	156	154	121	150	152	145
June	558	145	172	151	157	154	120	151	153	144
July	540	144	175	151	157	159	119	154	152	144
Aug	532	143	175	152	157	156	118	155	155	143
Sept	525	143	174	156	159	157	117	151	157	143
Oct	530	146	173	155	159	161	119	148	159	143
Nov	534	148	171	155	161	163	119	147	157	144
Dec	534	148	171	154	160	163	119	149	155	146
1928										
Jan	531	148	170	153	159	162	119	151	154	147
Feb	529	149	170	153	158	159	118	146	152	145
Mar	522	150	171	154	157	155	118	142	153	145
Apr	522	150	171	154	156	155	119	140	154	144
May	----------	150	172	155	156	154	120	144	154	147
June	----------	150	171	157	156	156	118	142	154	----------

Retail Prices of Clothing in England, 1914 to 1928

THE English Ministry of Labor Gazette for August, 1928, contains some details as to how the comparative cost of clothing, purchased at retail, is secured and calculated for the cost-of-living figures published monthly. The goods and articles for which prices are secured monthly from a large number of representative dealers are those most generally purchased by the workers, including suits and overcoats, underclothing and hosiery, cotton and woolen materials, and shoes. In some cases the prices collected are those of materials rather than of articles of clothing themselves, partly because comparative prices of materials can be obtained over a long period with greater accuracy, and partly because in many cases families buy the materials and have them made up at home or elsewhere. The method of dealing with the prices after they have been secured is thus described:

In order to arrive at the general percentage increase in prices the percentage change is computed separately for each quotation supplied by each retailer, and these percentages are then combined, by simple arithmetic averaging, into six groups, for each of which the average percentage increase at August 1, 1928, as compared with July, 1914, was approximately as under:

Group	Percentage increase
1. Men's suits and overcoats	80
2. Woolen material for women's outer garments	150
3. Woolen underclothing and hosiery	140
4. Cotton material for women's outer garments	180
5. Cotton underclothing material and hosiery	130
6. Boots	120

The final percentage, representing the general increase in the retail prices of clothing, is then computed by averaging the figures for these six groups, those for groups 2 and 4 being first modified on account of the cost of making up materials (which inquiries have shown to be nearly one and a half times as much as in 1914) and the relatively greater importance of group 1 and the smaller importance of group 4 being recognized by giving a weight of 1½ to group 1 and of ½ to group 4, compared with 1 to each of the other four groups. The result of this final averaging shows that the average increase in the retail prices of working-class clothing at August 1, 1928, compared with July, 1914, was approximately 120 per cent. This is slightly higher than a year earlier, the increase in the percentage since that time being due mainly to the higher prices of boots and, to a smaller extent, to advances in the price of cotton materials.

The percentages given in this article are, of course, necessarily in the nature of approximations, since, owing to the wide range of quotations both now and before the war, to changes in qualities and in stocks held by retailers, and to the variations in the extent to which different articles and qualities have been affected by price changes in recent years, it is not possible to make exact calculations of the average percentage increases in prices of clothing. Subject, however, to this general qualification, the results of the investigations may be taken to be broadly representative of the general course of prices of the cheaper grades of clothing.

COST OF LIVING

A Study of Peking Family Budgets

A DETAILED analysis of the budgets of 60 families in the capital city of China is given in a recent report by L. K. Tao, formerly professor of sociology in the National University of that city.[1] The study was made possible through the financial assistance of the Institute of Social and Religious Research, New York, and was carried on under the auspices of the Peking Social Research Department of the China Foundation for the Promotion of Education and Culture.

It is claimed that this is the first family budgetary inquiry made in China for a period of six months by the account-book method. Since the investigation was completed two similar inquiries have been begun, in Tientsin and Shanghai.

The report is based on the study of 300 account books, 288 of which were for 48 working-class families for a period of six months in 1926 and 1927, while the remaining 12 account books were for the households of elementary-school teachers during November, 1926.

The following summary deals only with the budgets of 48 working-class families, all of whom, the budgetary figures suggest, were "on the margin of poverty" and may claim to represent that class of Peking households which is "according to circumstances either dependent on some form of relief or just in a position to maintain a meager existence." It is estimated that at least 60,000 Peking families, or 270,000 persons, live at such a level.

The term "family" as used in this investigation means "the aggregate of persons who are not merely or even necessarily of the same kin but are essentially related in their household economy." The average number of persons in each of the 48 families was approximately 4.6.

As the general rule for computing age in China is to consider a child 2 years old on the first day of the new year regardless of the date of his birthday in the preceding year, it is assumed in the study that the reported ages averaged one year above the actual ages, and a corresponding reduction was made in calculating the adult equivalents for food consumption based on the Atwater scale. In accordance with this scale the 220 persons in the 48 families included in the study were equivalent to 162.1 adults. The investigators also applied the Atwater scale to the consumption of commodities other than food.

Of the 48 families, 52 per cent were Chinese, 25 per cent were Manchus, and 23 per cent were Mohammedans. Although the traditional Chinese family has more members than the father, mother, and children, the modern type of family prevails in urban districts and among the comparatively poorer people.

[1] Tao, L. K.: Livelihood in Peking. Peking, China, Foundation for the Promotion of Education and Culture, Social Research Department, 1928.

Thirty-nine of the family heads were between 30 and 60 years of age—21 of them being in the 30 to 39 age group. Thirty-nine of the wives were from 20 to 50 years of age, while 75 per cent of the sons and 83 per cent of the daughters were under 15. Of the 220 family members, 114 were males and 106 were females. Of the 72 gainfully employed male members of these families, more than half were ricksha men and about four-fifths of the 74 gainfully employed females were sock finishers, flower makers, seamstresses, and yarn spinners.

It has been recently estimated that there are 40,000 ricksha men in Peking. The congestion in this occupation is said to be due to the existence of so many unskilled or semiskilled workers in the city who have nothing to offer but their muscular energy and to the lack of systematic transportation facilities in and around the capital. The large proportion of employed males in the occupation, as found in the family budget survey, "may be taken as a condition rather typical of the Peking working population."

Table 1 shows the average hours and days of labor for the gainfully employed members of the 48 families for the period covered in the inquiry:

TABLE 1.—AVERAGE HOURS AND DAYS OF WORK IN SIX MONTHS (181 DAYS), BY AGE GROUP

Age group	Males			Females		
	Number	Average working hours per day	Average working days	Number	Average working hours per day	Average working days
5 to 9 years	3	3.7	7	3	4.3	140
10 to 14 years	7	9.9	124	15	5.5	144
15 to 19 years	8	10.1	172	8	6.8	149
20 to 29 years	11	10.0	169	12	6.3	125
30 to 39 years	22	9.4	172	19	7.4	146
40 to 49 years	12	8.9	166	9	6.9	116
50 to 59 years	6	7.7	138	4	6.0	146
60 years and over	3	8.0	125	4	6.3	111
All ages	72	9.1	154	74	6.4	137

The investigator cautions against comparing the hours of labor in China with those of other countries, as such hours can not be interpreted as representing "continuous, serious exertion." There are, however, few rest days for the unskilled Chinese workers, as Sunday is not observed by this class of labor.

In the statement following, the average income for 48 families for a six months' period is given and also the various sources of income, the conversion into United States currency being made on the basis of the exchange rate for January, 1927 (yuan = 44 cents).

Earnings of—	Income	Per cent
Husband	$25.81	56.8
Wife	3.98	8.8
Children	9.76	21.5
Others	1.57	3.4
Total	41.12	90.5

	Income	Per cent
Presents	$2.75	6.1
Relief	.25	.6
Rents	1.06	2.2
Other sources	.26	.6
Total	4.32	9.5
Grand total	45.43	100.0

The above figures indicate the "appallingly low" earning power of the gainfully employed members of the families covered. It seems to the investigators that the meager wages of these people are the result of a combination of the low intelligence of the workers, a surplus of labor, and the generally low standard of living in Peking.

Following is a record of the average expenditures, in United States currency, of the same 48 families for a period of six months. The average size of these families was 4.58 persons, the equivalent of 3.38 adult males per family.

	Average cost	Per cent of total
Food	$31.79	71.2
House rent	3.36	7.5
Clothing	3.05	6.8
Fuel, light, and water	5.05	11.3
Miscellaneous	1.39	3.1
Total	44.64	100.0

Deficit and surplus.—A comparison of average earnings with average expenditures in the six-month period showed that 34 of the 48 families had an average deficit of $6.29, and 14 families had an average surplus of $3.21 (United States currency).

Number of dependents.—An analysis of the figures on family supporters, self-supporters, partial dependents, and complete dependents showed that, aside from the self-supporters, each family supporter averaged almost three dependents or 1.8 equivalent adults.

Food consumption.—The articles of food are listed in an extensive table in the original report. After a study of this comprehensive table the author makes the following statement in regard to the special features of food consumption by these families in Peking:

1. By far the largest amount of the expenditure spent by the average family for food goes to the cereal group and that is 80 per cent of its entire food expenses. While 9.1 per cent goes to vegetables and 6.7 per cent goes to condiments, the expenses on meat, fish, and other animal foods are insignificantly low, viz, only 3.2 per cent. This striking fact no doubt supports the contention that the Chinese are essentially a vegetarian people, but it should be observed that it is more than likely that their low consumption of meat is entirely due to their slender income.

2. In lieu of meat and dainties, pickles and pungent and odoriferous edibles are plentifully consumed as appetizers.

3. The sparing use of fruits as food, a feature which may be considered as characteristic of the diet of the Peking people of humble means.

4. The significant fact that milk and its products are entirely absent from the Chinese menu is well known and hardly needs dwelling upon, though it should be pointed out that even previous to the advent of modern dairies, there have been in existence in Peking, stores engaged in making curdled milk and its allied products, the favorite foods of Manchus and Mongols.

Table 2 gives the average daily expenditure for food and the consumption and caloric value per equivalent adult, by class of food.

TABLE 2.—AVERAGE DAILY EXPENDITURE FOR FOOD AND CONSUMPTION PER EQUIVALENT ADULT MALE IN 48 WORKING FAMILIES

Class of food	Average daily expenditure (cents) [1]	Average daily consumption (grams)				Average fuel value (calories)
		Protein	Fats	Carbohydrates	Total	
Cereals	3.50	66.99	19.74	489.76	666.39	2,407.72
Vegetables	.40	4.76	.57	12.18	247.42	73.15
Condiments	.29	1.47	6.50	1.29	29.21	69.68
Meats	.14	1.29	2.01	.01	7.23	23.96
Refreshments (fruits, etc.)	.04	1.37	.79	2.03	48.51	20.63
Total, all classes	4.37	75.88	29.61	505.27	998.76	2,595.14

[1] Converted into U. S. currency on basis of exchange rate for January, 1927 (yuan=44 cents).

The above table indicates, as pointed out by Mr. Tao, that these working people of Peking consumed more carbohydrates than allowed by the standard diet and less proteins and fats than the standard set by some food nutrition experts. Furthermore, the fuel value of their food is considerably below 3,000 calories—the generally recognized standard.

After a discussion of the conflicting theories on diet nutrients and the requirements of workers in the matter of calories, the author states that "one can not help suspecting that the Chinese diet, which has been determined during the long ages through the adaptation of the race to its environment and on which have subsisted and survived generations of our people, may after all not be so painfully inadequate as some would suggest."

Housing.—Every family but 2 of the 48 investigated was occupying but 1 room, and only 11 of these families had their roofs in good condition. The average capacity per room was 706 cubic feet.

On the basis of the study under review and of their personal knowledge of the housing of the poor in Peking, the investigators feel warranted in stating that "for a family of three adults with an income of less than 30 yuans [$13.20 United States currency] per month to have one adult to a room is an impossibility."

Clothing.—The average expenditure for clothing for the 48 families for 6 months was $3.05 (United States currency), less than 7 per cent of the total expenditure, while the record for the families in the lowest income group was 45 cents, or 1.5 per cent of their total expenditures.

South African Inquiry into Family Budgets [1]

THE Union of South Africa, with a view to making its cost-of-living index correspond more closely to present conditions, has undertaken an inquiry into family expenditures, to be carried out through the office of census and statistics during the three months beginning August, 1928.[1] The investigation is limited to families having an income of not more than £600, living in towns or villages, having at least one child, and not keeping boarders. Families having lodgers may be included, provided no meals are given.

[1] Union of South Africa. Department of Labor. Social and Industrial Review, Pretoria, August, 1928.

The inquiry is to be an exhaustive one, covering details as to the composition, income, housing, and furnishings of the family, as well as its expenditures. Particulars concerning the latter are sought covering the past 12 months in respect of wearing apparel, crockery, kitchen utensils, linen, holiday train fares, medical attendance and medicine, school charges, library and church contributions, income and provincial taxation, insurance, and licenses. Actual expenditures for the three months covered are to be gathered concerning food, drink and tobacco, fuel and light, and certain miscellaneous items. This part of the inquiry is decidedly detailed.

The first form embodies a list of the various foodstuffs, drink, and tobacco required in the household, and columns are provided for the quantity and cost of each item actually purchased each month. It also includes the cost of meals taken outside the home. The second form deals with expenditures on fuel and light, including candles, matches, current and gas, while the third form requires particulars of washing, cleaning, and toilet materials, servants' wages, reading matter, fares (excluding holiday fares), cost of amusement and recreation, including club subscriptions, benefit subscriptions, and donations to charity, expenditure in connection with motor cars, etc., or musical instruments, wireless, etc.

LABOR AGREEMENTS, AWARDS, AND DECISIONS

Agreements

Coal Miners—Rocky Mountain Fuel Co.

AN AGREEMENT of unique and possibly far-reaching effect in the coal-mining industry has just been signed by the Rocky Mountain Fuel Co. and the United Mine Workers of America.

This agreement fixes an increase in wages, for miners and other employees, on the basis of an established differential above nonunion rates. Such an arrangement seems to indicate confidence, on the part of the company, in the integrity and superior efficiency of union labor. A detailed plan for the adjustment of differences is also a prominent part of the agreement.

Bathhouse facilities at the mines, and a department of medicine, health, and sanitation seem new in this field and for this reason of great significance.

Cooperation on the part of union men is agreed to both in and outside the mine.

Interesting provisions of the new agreement are given below.

Declaration of principles

Our purposes are:

To promote and establish industrial justice.

To substitute reason for violence, confidence for misunderstanding, integrity and good faith for dishonest practices, and a union of effort for the chaos of the present economic warfare.

To avoid needless and wasteful strikes and lockouts through the investigation and correction of their underlying causes.

To establish genuine collective bargaining between mine workers and operators through free and independent organization.

To stabilize employment, production, and markets through cooperative endeavor and the aid of science.

To assure mine workers and operators continuing mutual benefits and consumers a dependable supply of coal at reasonable and uniform prices.

To defend our joint undertaking against every conspiracy or vicious practice which seeks to destroy it; and in all other respects to enlist public confidence and support by safeguarding the public interest.

Pit committee and duties

The pit committee shall consist of not more than three men, selected by the miners, all of whom shall be able to speak the English language, and shall be employees of the mine in which they act as pit committeemen. No meeting shall be held during working hours, except by mutual agreement between the superintendent and pit committee.

The duties of the pit committee shall be confined to the adjustment of disputes between the pit boss or foremen having proper jurisdiction and any member of the United Mine Workers of America, working in and around the mine, arising out of this agreement, when the pit boss or foreman having proper jurisdiction

and said miner or mine laborer have failed to agree, and if an agreement is reached by the foreman and the pit committee, said agreement must be made in writing.

Any pit committeeman who shall attempt to force any rule or proceeding in conflict with any provision of this agreement or any other agreement made in conformity herewith shall be forthwith deposed as a committeeman by the local union.

Manner of adjusting grievances

In case of any local trouble arising in any mine through such failure to agree between such pit boss or foreman having proper jurisdiction and any miner or mine laborer, the pit committee and the pit boss or foreman are empowered to adjust it; and in case of their disagreement, it shall be referred to the mine superintendent and the district president of the United Mine Workers of America or his representative, and should they fail to agree it shall be taken up again by the president of the district and the manager of mine operations of the company for adjustment, and should they fail to agree it shall be referred to the president of the company or his representative and the international president of the United Mine Workers of America or his representative for adjustment. The mines, miners, mine laborers, and parties involved must continue at work pending investigation and adjustment until a final decision is reached in the manner above set forth. And there shall be no discrimination practiced against any employee while such case or cases are being adjusted.

If any day man refuses to continue at work because of a grievance, which has or has not been taken up for adjustment in the manner provided herein, and such action shall seem likely to impede the operation of the mine, the pit committee with the assistance of the mine foreman shall immediately furnish a man or men to take such vacant place or places at the scale rates, in order that the mine may continue at work; and it shall be the duty of any member or members of the United Mine Workers of America, who may be called upon by the pit boss, foreman, or pit committee to immediately take the place or places assigned to him or to them, in pursuance hereof.

The pit committee in the discharge of its duties shall under no circumstances go around the mine for any cause whatever unless called upon by the pit boss or by a miner or company man who may have a grievance that he can not settle with the pit boss. Any committeeman who causes a mine or any portion of the mine to be idle in violation of this agreement may be discharged.

The foregoing shall not be construed to prohibit the pit committee from looking after the matter of membership, dues, and initiations in any proper manner.

Members of the pit committee employed as day men shall not leave their places of duty during working hours except by permission of the mine foreman or in cases involving the stoppage of the mine.

Management of the mines

The right to hire and discharge, the management of the mines, and the direction of the working forces are vested exclusively in the company, and the United Mine Workers of America shall not abridge this right. It is not the intention of this provision to encourage the discharge of the employees or the refusal of employment of applicants because of personal prejudice or activity in matters affecting the company and the United Mine Workers of America. If any employee shall be discharged or suspended by the company and it is claimed an injustice has been done, an investigation to be conducted by the parties and in the manner set forth in the preceding paragraphs shall be taken up promptly, and if it is proved that an injustice has been done, the company shall reinstate said employee and pay him full compensation for the time he has been suspended and out of employment; provided, however, that if no decision shall be rendered within five days the case shall be considered closed in so far as compensation is concerned, unless said failure to arrive at a decision within five days is owing to a delay on the part of the company, in which case a maximum of 10 days' compensation shall be paid. It is agreed that the local pit committee shall investigate the merits of all grievances before submitting them to the superintendent.

It is distinctly understood and agreed that in the case of all disputes and grievances of every nature arising under this contract the mines continue at work pending a settlement.

Check-off

The company agrees to check-off from the miners and mine laborers all dues, initiation fees, fines, and assessments for the local union of the United Mine Workers of America to which such miners and mine laborers belong, and such other assessments as are set forth in this agreement, also checkweighman's fees, for which an order is signed by each of such miners or mine laborers, addressed to the company in the following form:

Check-off order

————, 19—

"To the Rocky Mountain Fuel Co.:

"I hereby authorize you to deduct from time to time from whatever sum may from time to time be due me while in your employ, whatever sum may be due from me as dues, initiation fees, fines, and assessments to any local of the United Mine Workers of America to which I belong as may from time to time be reported to you by the secretary of said local, and such other assessments as are set forth in the agreement of ———, 1928, between the Rocky Mountain Fuel Co. and the United Mine Workers of America and to pay the same to the secretary of the said local; and also to deduct from time to time while in your employ such sum as may from time to time be due from me to the checkweighman at the mine at which I shall be employed, and to pay the same to the said checkweighman. It is understood that the checkweighman's wages shall have preference over other deductions."

Marketable coal

It is not the intention of the mine-run system to reduce the percentage of lump coal or to produce a large percentage of slack, and the miners and men shooting and loading after machines shall exercise reasonable care in placing their shots so as to produce the largest amount possible of marketable coal.

The miners at every mine, the mine committee, and United Mine Workers of America, pledge their full cooperation to create and maintain efficiency in mining, shooting, and loading with a view to producing a maximum of large-sized marketable coal.

Penalities for loading impurities

In order to insure the production of clean, marketable coal it is herein provided that if any miner or loader shall load with his coal, sulphur, bone, slate, black-jack, or other impurities, he may for the first and second offenses be warned, and for the third or any subsequent offense occurring in any 30-day period, he may be suspended for 5 days, or for any aggravated or malicious case the miner or loader so offending may be discharged.

Bathhouse

The company agrees to equip a bathhouse at each mine not now so equipped, as soon as practicable after receipt of written request signed by a majority of employees at such mine or mines. All employees signing said petition or request, agree to bear a portion of the expense connected with said bathhouse which in no case is to exceed $1 per month per man. Where bathhouses are in operation or where same are installed in the future, the company agrees to maintain same in a sanitary condition. Buildings are to be heated and warm and cold water furnished.

Department of medicine, health, and sanitation

There shall be created a department of medicine, health, and sanitation and a commission to organize and direct the activities of this department. The department shall have a director who shall be a licensed and qualified physician and surgeon; such assistant physicians and surgeons as work of the department may require and such nurses as may be required. The department shall further have consulting physicians and surgeons. The commission shall be made up of one representative from each mine, elected by the miners, and of the same number of officials selected by the company. Immediately after this contract is signed the commission shall meet and proceed to organize the department and adopt rules for the transaction of the commission's business and for such regular and special meetings as may be required.

The purposes of the department of medicine, health and sanitation shall be:

A. To render the best and most skilled medical and surgical service possible to employees and their families in case of illness or injury.

B. To provide scientific and adequate prenatal and confinement care for the wives of the employees.

C. To promote health and to prevent illness (1) by establishing and maintaining sanitary conditions in the company's camps, (2) by making available, through consultation and visitation of doctors and nurses, information on general health matters and specialize service and information on matters affecting children's health and development.

The commission shall hear, investigate, and adjust complaints which may arise in connection with the work of this department. In case the commission is unable to reach a majority agreement on the adjustment of any complaint, two of its members shall be selected, one by the miners' representatives on the commission and one by the company's representatives on the commission, who shall in turn select any third person they desire, and these three persons shall adjust the complaint. Such adjustment by the three persons mentioned shall be final and binding to the parties of this agreement.

It is further provided and agreed that the present charge of $1 per month for unmarried men and $1.50 for married men and their families shall be charged to employees of the company and be deducted monthly from their wages to assist in maintaining such department and that any expense incurred by the department in excess of the fund so above provided shall be paid by the company.

Wage scale and methods of adjustments

In view of the general unsettled conditions now affecting the coal industry, it is understood and agreed that the wages set forth in this agreement are contingent upon competitive conditions affecting the company's mines. In consideration thereof it is agreed:

1. That the company will advance the basic day wage of $6.77 to $7, and corresponding advances shall be made in other existing classifications of the general wage scale.

2. If the basic day wage scale (as shown for the preceding month by the production records in the office of the chief coal mining inspector of the State of Colorado) of the producers of 51 per cent or more of the tonnage in Boulder and Weld Counties, not including the tonnage of the company, is reduced below the scale of $6.77, the basic and general wage scale fixed by this agreement shall be likewise reduced forthwith, except that the company will maintain a higher differential of 23 cents on such reduced scale, which is the advance in the basic day wage given under this agreement.

3. If the present basic day wage of $6.77, now paid by operators other than the company is increased, the company shall only be required to pay so much of the differential as is necessary to make a basic day wage of $7. No payment of differential shall be required if the basic day wage equals or exceeds $7.

4. No such differential shall be paid when operators, including the company, producing 65 per cent of the tonnage in such district are operating under union contracts.

5. The parties hereto mutually agree to justify the payment of the differential in the wage scale by cooperative effort and increased efficiency.

6. In the event of the enactment of Federal legislation to improve or stabilize the coal industry, the parties hereto agree to cooperate in the enforcement of any such legislation relating to wages and working conditions.

Rates of wages

Subject to the foregoing wage scale and adjustment provisions, the following wages shall be paid in the mines of the company in Weld and Boulder Counties:

OUTSIDE DAY WAGE SCALE

Occupation	Old	New
Hoisting engineer, first: All mines	$6.77	$7.00
Hoisting engineer, second:		
Columbine	6.77	7.00
Industrial	6.40	6.63
Other mines	6.21	6.44

Occupation	Old	New
Hoisting engineer, third:		
Columbine	$6.48	$6.71
Industrial	6.40	6.63
Other mines	6.21	6.44
Box car loader engineer	6.45	6.68
Car droppers:		
Columbine	4.85	5.08
Other mines	5.85	6.08
Slate pickers:		
Men	4.32	4.55
Old men and boys	3.70	3.93
Blacksmith, head:		
Where only 1 smith in shop	6.90	7.13
In charge of 2 or more men	6.77	7.00
Blacksmith, second	5.85	6.08
Blacksmiths' helpers	4.88	5.11
Tool sharpener	6.20	6.43
Tool sharpeners' helpers	4.88	5.11
Car repairers, head	6.20	6.43
1 only employed	5.85	6.08
Helper	4.32	4.55
Machinist	6.90	7.13
Machinist helpers	5.50	5.73
Electrician	6.90	7.13
Electrician helpers	4.32	4.55
Teamsters	4.85	5.08
Bathhouse tender, Columbine	[1] 82.50	[1] 90.00
Lamp man, Columbine	[1] 160.00	[1] 167.50
Lamp man helpers	4.32	4.55
Firemen	6.00	6.23
Shoveling box cars	5.85	6.08
Outside common labor	4.32	4.55
Rock hoist	5.60	5.83
Rock car	4.32	4.55
INSIDE DAY WAGE SCALE		
Miners, taken from face	6.77	7.00
Timbermen	6.77	7.00
Timbermen helpers	6.34	6.57
Bratticemen	6.77	7.00
Track men	6.77	7.00
Track men helpers	6.34	6.57
Rock men	6.77	7.00
Rock men helpers	6.34	6.57
Drillers, electric drill	6.77	7.00
Drillers, helpers	6.34	6.57
Fire boss:		
Columbine	7.12	7.35
Other mines	6.89	7.12
Shot firers	7.02	7.25
Machine runners, by day	7.13	7.36
Machine runners' helpers	6.77	7.00
Machine repairmen	6.77	7.00
Machine repairmen helpers	6.34	6.57
Wiremen	6.77	7.00
Pumpers	6.77	7.00
Pumpers, old men and boys	4.32	4.55
Drivers	6.77	7.00
Cagers	6.77	7.00
Cagers' helpers	4.85	5.08
Pushers and spraggers	6.77	7.00
Trappers, boys or old men	4.32	4.55
Motormen	6.77	7.00
Nippers capable of running motor	6.77	7.00

[1] Per month.

Occupation	Old	New
Nippers	$5. 75	$5. 98
Nippers' boys	4. 85	5. 08
Couplers	6. 77	7. 00
Couplers' boys	4. 85	5. 08
Inside hoists	6. 77	7. 00
Oilers and greasers	4. 85	5. 08
Inside common labor, unclassified	6. 34	6. 57

VULCAN MINE

Mining rates	Old	New
Hand mining, per ton	$0. 98	$1. 01
Contract machine loading	. 72	. 745
Cutting, air machines or punchers to depth of 5 feet per face foot	. 18	. 186
Narrow work.		
Yardage, entries and crosscuts, machine work paid to loaders per lineal foot	. 62	. 64
Yardage, entries and narrow crosscuts, hand mining paid to miners per lineal foot	. 68	. 70
Room turning, per lineal foot for 12 feet	. 62	. 64
Dirt between coals:		
For first 6 inches in thickness, per lineal foot	. 11	. 113
For each additional inch in thickness, per lineal foot	. 018	. 019
Grading or brushing, bottom, entry width where drilling and shooting is necessary, per lineal foot per inch of thickness	. 03	. 031

STANDARD

Cutting, loading, hauling to parting and laying straight tracks, also timbering, per ton	1. 03	1. 065
Grading or brushing, bottom, entry width where drilling and shooting is necessary, per lineal foot per inch in thickness	. 03	. 031

INDUSTRIAL MINE

Hand mining, per ton	. 99	1. 02
Contract machine loading	. 74	. 765
Electric undercutters, short-wall machines per face foot, cut to depth of 7 feet	. 17	. 175
Breast machines, per face foot, cut to full length of cutter bar	. 17½	. 181
Yardage, entries and crosscuts, per lineal foot, to loaders	. 62	. 64
Room turning, for 24 lineal feet paid to loaders, per foot	. 62	. 64
Dirt between coals:		
Per lineal foot for first 6 inches	. 11	. 113
For each additional inch in thickness, per lineal foot	. 009	. 009
Grading or brushing, bottom, entry width where drilling and shooting is necessary, per lineal foot for each inch of thickness	. 02⅓	. 024
Grading or brushing:		
Bottom, entry width where drilling and shooting is unnecessary, per lineal foot for first 6 inches	. 11	. 113
Per lineal foot for each additional inch	. 018	. 019

COLUMBINE MINE

Hand mining, per ton	. 85	. 88
Machine loading	. 43	. 445
Contract machine loading	. 695	. 72
Cutting and shearing:		
Per place to depth of 8 feet Oldroyd machine, 13-foot place	2. 15	2. 22
For each additional foot over 13 feet	. 10	. 103
Other electric undercutters:		
To depth of 7 feet for 13-foot place	1. 90	1. 96
For each additional foot over 13 feet	. 10	. 103
Dirt between coals, per car	. 65	. 67
Grading or brushing, bottom, entry width where drilling and shooting is unnecessary, per car	. 65	. 67

GRANT MINE

Mining rates	Old	New
Hand mining, per ton	$0.96	$0.99
Contract machine loading	.69	.71
Electric undercutters, short-wall machines, per ton	.108	.111
Yardage, entries and crosscuts per lineal foot	.545	.563
Room turning, per lineal foot up to 20 feet paid to loaders	.545	.563
Dirt between coals:		
Per lineal foot for 6-inch thickness	.07	.072
For each additional inch in thickness, per lineal foot	.01⅙	.012

This agreement shall become effective September 1, 1928, and shall terminate August 31, 1930.

Sixty days before the expiration of this agreement, both parties agree to meet in conference in Denver, Colo., for the purpose of either extending this agreement, or revising and extending it or executing a new agreement. Any such extensions must be in writing.

If no new contract is reached at the expiration of this agreement, the mines shall continue in operation pending negotiations or until negotiations are discontinued by either party to this agreement.

As long as the mines of the company affected by this agreement continue in operation after the expiration of this agreement, until a new agreement is reached, the same scale of wages, contract prices, and various conditions enumerated herein shall remain in effect.

Awards and Decisions

Railway Clerks—St. Louis-San Francisco Railway Co.

A BOARD of arbitration, consisting of M. M. Sisson and J. L. McCormack, selected by the carrier; J. H. Sylvester and J. R. Moll, selected by the brotherhood; and John L. Kennedy and Fred L. Williams, selected by the United States Board of Mediation, rendered a decision in a controversy concerning wages between the St. Louis-San Francisco Railway Co. and other railroad companies and the Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, August 2, 1928, made effective the preceding day, reading as follows:

SECTION 1. Storekeepers, assistant storekeepers, chief clerks, foremen, subforemen, and other clerical supervisory forces, add an increase of 3¾ cents per hour.

SEC. 2. (*a*) Clerks with an experience of one or more years in railroad clerical work or clerical work of a similar nature in other industries, or where their cumulative experience in such clerical work is not less than one year, add an increase of 3¾ cents per hour.

(*b*) Clerks with an experience of less than one year in railroad clerical work or clerical work of a similar nature in other industries or where their cumulative experience in such clerical work is less than one year who are now in the service or may hereafter enter the service are to be paid 34 cents per day less than the full established rate of pay for the position occupied.

NOTE.—After employees covered by this section have accumulated one year's experience as herein defined they shall be rated and paid the full rate of the position occupied in accordance with the provisions of section 2 (*a*).

SEC. 3. Telephone switchboard operators, assistant station masters, train announcers, and gatemen, other than clerks, add an increase of 1 cent per hour.

SEC. 4. Janitors, elevator operators, office and station and warehouse watchmen, and employees engaged in assorting waybills and tickets, operating appliances or machines for perforating, addressing envelopes, numbering claims and other papers, gathering and distributing mail, adjusting dictaphone cylinders, and other similar work, add an increase of 1 cent per hour.

SEC. 5. Office boys, messengers, chore boys, and other employees filling similar positions, add an increase of 1 cent per hour.

SEC. 6. Station, platform, warehouse, transfer, dock, pier, storeroom, stockroom, and team track freight handlers or truckers and others similarly employed including stock yard laborers, add an increase of 2¾ cents per hour.

SEC. 7. The following differentials shall be established and maintained between truckers and the classes named below:

(*a*) Sealers, scalers, and fruit and perishable inspectors, 2 cents per hour above truckers' rates as established under section 6. This not to decrease any existing higher differentials.

(*b*) Stowers or stevedores, callers or loaders, store helpers, pickers or locaters, and coopers, 4 cents per hour above truckers' rates as established under section 6. This not to decrease any existing higher differentials.

SEC. 8. All laborers in and around stations, storehouses, and warehouses, chauffeurs, electro-mobile operators, and others similarly employed, add an increase of 2¾ cents per hour.

SEC. 9. Baggage and parcel room employees, and station helpers, add an increase of 2¾ cents per hour.

SEC. 10. Train and engine crew callers, add an increase of 2 cents per hour.

Signalmen—Nashville, Chattanooga & St. Louis Railway

A CONTROVERSY relative to an increase in pay of signalmen on the Nashville, Chattanooga & St. Louis Railway and the Nashville Terminals was settled June 21, 1928, by a board of arbitrators consisting of H. H. Cartwright representing the carrier, L. W. Givan representing the union, and Grafton Green, selected by them and confirmed by the United States Board of Mediation.

The signalmen requested an increase of 6 cents per hour for each of the classes at the time receiving the following hourly rates: Leading signalmen and leading signal maintainers, 79 cents; signalmen and signal maintainers, 74 cents; assistant signalmen and assistant signal maintainers, starting at 51 cents and increasing 2 cents per hour each six months through four years (maximum, 65 cents); signal helpers, 49 cents; relay repairmen to be classified as leading signalmen.

The board increased the rate of signalmen and leading signalmen by 4 cents per hour and the others by 3 cents, but refused to classify relay repairmen as leading signalmen. The decision was made effective as of March 29, 1928.

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IMMIGRATION AND EMIGRATION

Statistics of Immigration for July, 1928

By J. J. Kunna, Chief Statistician United States Bureau of Immigration

DURING the month of July, 1928, there were 36,658 aliens admitted to the United States and 28,053 departed, causing an increase to the alien population of 8,605. Of these alien admissions 20,682 were classified as immigrants or newcomers coming here for a permanent stay, while 15,976 were visitors or transients. Of those departing, 7,804 had been living here a year or more and were leaving for permanent residence abroad, and the remainder, 20,249, were either here on a visit or intend to return after a short absence in a foreign country.

Of the 20,682 immigrant aliens admitted during July last, 9,130, or 44.1 per cent, came from Europe, and nearly four-fifths of the European immigration came from seven countries, ranking in order as follows: Germany, 2,205; Italy, 1,885; Irish Free State, 1,024; Great Britain, 1,020; Poland, 367; Sweden, 356; and Norway, 315. Canada contributed 5,234 immigrants during the same period, Mexico, 4,927, the West Indies, 481, Central and South America, 414, and the other countries, 496.

During the same month 1,286 aliens were denied admission to the United States for various causes under the immigration laws, mainly because they failed to secure visas from American consuls. Most of these were debarred at the international land boundaries, 875 at the Canadian border, and 265 at the Mexican border stations. The other 146 aliens debarred in July were turned back at the seaports of entry. Seven hundred and sixty-eight undesirable aliens were deported from the United States during the month under warrant proceedings, 536 having been returned to the countries whence they came at Government expense, 91 at the expense of the steamship companies bringing them to our shores, 89 departed at their own expense, and 52 were permitted to ship one way as a compliance with the warrant of deportation.

Aliens of all classes admitted in July, 1928, under the immigration act of 1924, numbered 36,658. Over half, or 20,080, of this number entered at New York and 5,337 at the other seaports. Of the New York arrivals, 16,931 were born in European countries, principally Italy, Germany, Great Britain, and the Irish Free State. Aliens admitted during the same month via Canadian border land ports numbered 6,072, of whom 4,151, or 68.4 per cent, were natives of Canada and 1,776, or 29.2 per cent, of European countries, mainly Great Britain and Ireland, while 74 were born in Asia, Africa, Australia, and New Zealand; and 71 in the other countries. During the same month 5,169 aliens came in over the southern land border, and

of this number 4,969, or 96.1 per cent, gave Mexico as their country of birth, the remaining 200 being natives principally of European and Asiatic countries.

Of the total admissions during July last, 9,651 came in under the immigration act of 1924 as natives of nonquota countries, principally Canada and Mexico; 7,626 as immigrant aliens charged to the quota; 6,638 as returning residents; 6,610 as visitors for business or pleasure; and 2,162 as persons passing through the country on their way elsewhere. Of the remainder, 2,976 were admitted under the act as husbands, wives, and children under 21 years of age of American citizens, 530 as Government officials, and 465 as of the miscellaneous classes.

INWARD AND OUTWARD PASSENGER MOVEMENT DURING THE FISCAL YEAR ENDED JUNE 30, 1928, AND DURING THE MONTH OF JULY, 1928

Period	Inward					Aliens debarred from entering [1]	Outward					Aliens deported after landing [2]
	Aliens admitted			United States citizens arrived	Total		Aliens departed			United States citizens departed	Total	
	Immigrant	Nonimmigrant	Total				Emigrant	Nonemigrant	Total			
Fiscal year ended June 30, 1928	307,255	193,376	500,631	430,955	931,586	18,839	77,457	196,899	274,356	429,575	703,931	11,625
July, 1928	20,682	15,976	36,658	32,974	69,632	1,286	7,804	20,249	28,053	68,463	96,516	768

[1] These aliens are not included among arrivals, as they were not permitted to enter the United States.
[2] These aliens are included among aliens departed, they having entered the United States, legally or illegally, and later being deported.

PUBLICATIONS RELATING TO LABOR

Official—United States

ILLINOIS.—Department of Mines and Minerals. *Forty-sixth coal report of Illinois, 1927. Springfield, 1928. 268 pp.*

Contains data on output, time worked, number of employees in different occupations at individual mines, and fatal and nonfatal accidents.

MASSACHUSETTS.—Department of Labor and Industries. *Annual report for the year ending November 30, 1927.* [*Boston, 1928?*] *77 pp.* (*Public document No. 104.*)

Some of the data on occupational diseases, contained in this report, are given on page 59 of this issue.

NEW YORK.—Department of Labor. State Insurance Fund. *Annual report for year ended December 31, 1927. New York, 432 Fourth Avenue, 1928. 21 pp.* (*Extract from the annual report of the industrial commissioner.*)

Data from this report are given on page 65 of this issue.

PHILIPPINE ISLANDS.—Department of Commerce and Communications. Bureau of Labor. *Rules for the due application of act numbered 3428, entitled "An act prescribing the compensation to be received by employees for personal injuries, death, or illness contracted in the performance of their duties." Manila, 1928. 139 pp.* (*In English and Spanish.*)

TENNESSEE.—Department of Labor. Division of Mines. *Thirty-third annual report of the mineral resources of Tennessee, 1927. Nashville, 1928. 164 pp.*

Includes statistics relating to accidents and wages.

UNITED STATES.—Department of Commerce. Bureau of Foreign and Domestic Commerce. *Commerce Yearbook, 1928. Vol. I—United States. Washington, 1928. xx, 708 pp.; charts.*

Presents detailed information on business conditions in the United States and its noncontiguous Territories and possessions for the year 1927.

—— —— Bureau of Mines. *Miners' Circular 31: Questions and answers on timbering bituminous coal mines, by J. W. Paul. Washington, 1928. 32 pp.; diagrams, illus.*

—— —— —— *Technical Paper 427: Propagation of flame in mixtures of natural gas and air, by H. F. Coward and H. P. Greenwald. Washington, 1928. 28 pp.*

Due to the fact that there are no convenient sources of supply of fire damp and methane in the United States, the authors of this paper state that the practice has been to draw on supplies of natural gas for experimental studies of firedamp explosions and for tests of the relative safety of electrical and other mine equipment in explosive atmospheres. In order to determine the exact differences between methane and natural gas as to the ease with which they may be ignited and the speed with which they propagate flame, the bureau has made certain experiments which are set forth in detail in this paper. These experiments are regarded as important to industry because of the extensive use of natural gas.

—— Department of Labor. Bureau of Labor Statistics. *Bulletin No. 463: Safety code for mechanical power-transmission apparatus.—First revision. Rules for guarding prime movers, intermediate equipment, and driven machines. Washington, 1928. 32 pp.; illus.*

UNITED STATES.—Federal Board for Vocational Education. *Bulletin No. 131: Foreman training in the United States. A translation of a report by a Swedish engineer on foreman training in the United States. Washington, 1928. 28 pp.*

The author spent about six months studying foreman training in the United States and visited most of the points where important work in this field has been organized.

—— Treasury Department. Public Health Service. *Public Health Bulletin No. 174: Mortality among Negroes in the United States, by Mary Gover. Washington, 1928. 63 pp.; map, diagrams.*

This review of the vital statistics of the negro population compares the mortality rates of the white and colored population in urban and rural areas and the trend of mortality between the two races from the diseases which are the more important causes of death.

—— —— —— *Public Health Bulletin No. 176: The health of workers in dusty trades. 1. Health of workers in a Portland cement plant. Washington, 1928. 138 pp.; diagrams, illus.*

Reviewed on page 56 of this issue.

Official—Foreign Countries

AUSTRALIA (NEW SOUTH WALES).—Bureau of Statistics. *The official yearbook of New South Wales, 1926–27. Sydney, 1928. 831 pp.; map, charts.*

Includes data on employment, wages, prices and cost of living, production, industrial arbitration, workmen's compensation, industrial accidents, etc.

—— Registry of Friendly Societies. *Report for the 12 months ended June 30, 1927. Sydney, 1928. 21 pp.*

During the year the membership of the friendly societies increased by 5,803, or 2.47 per cent. The largest absolute and much the largest relative increase was among the juveniles, whose numbers rose from 18,431 to 21,016, an increase of 14 per cent, while the adult males increased by only 1.2 per cent and the adult females by 4.5 per cent.

The total receipts of the societies for the year were £1,070,762, and the total expenditures, £867,433, of which £671,177 was paid out in benefits. The expenses of management were £154,125, which amounted to 14.4 per cent of the total income and to 13s. per capita of mean membership.

—— (VICTORIA).—Government Statist. *Fiftieth annual report on friendly societies, for the 12 months ended June 30, 1927. Melbourne, 1928. xvii, 30 pp.*

This being the fiftieth annual report, the Government statist presents some comparative data for 1877 and 1927. Considering only adult males (for the earlier report contains no record of female members), the membership has increased from 43,945 to 139,038, the total income from £152,508 to £854,841, the total funds from £360,269 to £4,357,344, and the amount paid out in sick benefits from £41,774 to £175,455. In 1927 the average duration of sickness per member was 2 weeks, against 1 week and 1 day in 1877, the increase being ascribed to the fact that the average age of the membership was considerably higher at the later date. The death rate, however, showed but little change during the period, having risen only from 10.20 per 1,000 members to 10.47. The amount of sick pay per member was 19s. 4d. in 1877 and £1 5s. 5d. in 1927, while expenses of management increased from 10s. 2d. to 14s. 1d. per member.

CANADA.—Bureau of Statistics. General Statistics Branch. *The Canada Year-book, 1927–28. Ottawa, 1928. xxxiii, 1100 pp.; maps, charts.*

The subjects treated include retail and wholesale prices, wages, immigration, accidents, trade-unions, employers' liability and workmen's compensation, strikes and lockouts, unemployment, child-labor laws, cooperation, and vocational and technical education. Among the new features are the preliminary results of the census of manufactures for 1926, a special article on Canadian legislation on restraint of trade, a study of the wage statistics collected in the 1921 census, and the findings of a new study of Canada's national wealth in 1925.

—— Department of Labor. *Seventh report on organization in industry, commerce, and the professions in Canada, 1928. Ottawa, 1928. 125 pp.*

The principal data given for the various associations are dates of organization, membership, objectives, and names and addresses of the chief executives.

—— (BRITISH COLUMBIA).—Department of Labor. *Annual report for the year ended December 31, 1927. Victoria, 1928. 92 pp.; charts.*

In 1927 the industries of the Province on the whole rather more than maintained the high level of prosperity of the preceding year. There was less time lost from labor disputes than in any other year of the department of labor's existence. The 1927 industrial pay roll, based on returns to the department, was $177,522,758, or $2,348,921 above the previous highest record, that of 1926.

—— (ONTARIO).—Minimum Wage Board. *Seventh annual report, 1927. Toronto, 1928. 39 pp.*

FEDERATED MALAY STATES.—Labor Department. *Annual report for the year 1927. Kuala Lumpur, 1928. 52 pp.*

In seven parts: I. Indian Immigration; II. Welfare of laborers, including data on number of Indian, Chinese, Javanese, and other laborers employed on estates and in mines and by the Government of the Federated Malay States 1923 to 1927, wages paid in 1927, and strikes; III. Chinese labor; IV. Netherlands Indian labor; V. Local Malay labor; VI. Legislation; VII. Staff and administration. Appendixes are attached which include statistics on arrivals and departures in 1927; number of Indian, Chinese, Javanese, and other laborers employed on specified estates, in mines, and in Government departments on January 1 and December 31, 1927; and fatal accidents to South Indians, by cause.

FRANCE.—Ministère du Travail, de l'Hygiène, de l'Assistance et de la Prévoyance Sociales. Direction du Travail. *Statistique des grèves survenues pendant l'année 1925. Paris [1928?]. xiii, 142 pp.*

This report contains statistics of causes and results of strikes occurring in France during the year 1925.

GREAT BRITAIN.—Home office. Factory Department. *Annual report for the year 1927. London, 1928. 155 pp. (Cmd. 3144.)*

The report of the senior medical inspector of factories is reviewed in this issue, page 61.

—— Industrial Fatigue Research Board. *Report No. 49: On the relief of eye-strain among persons performing very fine work, by H. C. Weston and S. Adams. London, 1928. 25 pp.; diagrams, illus.*

The beneficial effects of the use of eyeglasses to relieve the strain in certain types of work where it is necessary, even with adequate illumination, to keep the eyes quite near the work are shown by this investigation of the occupations of mounting lamp filaments and drawing-in (looming). In both cases there was found to be an increase in output in addition to the greater comfort experienced by the operatives.

GREAT BRITAIN.—Ministry of Health. Advisory Committee on the Welfare of the Blind. *Handbook on the welfare of the blind in England and Wales. London, 1927. 34 pp.*

The aim of the handbook is "to state briefly the facts as to blindness in England and Wales, to outline the history of the growth of methods for assisting the blind and the legislation on the subject, to analyze the various categories of the blind and describe the differing methods of help available for each category, to set out the system of organization, both official and voluntary, which is responsible at the present time for the welfare of the blind, and to refer to the powers that exist for the prevention of blindness."

—— —— Committee on Ethyl Petrol. *Interim report. London, 1928. 19 pp. (Cmd. 3159.)*

The findings of the committee are in agreement with the conclusions reached by the United States Public Health Service in its investigation of the health hazards involved in the use of tetraethyl lead gasoline. It was agreed by the committee that there are no reasons for prohibiting the use of this gasoline as a motor fuel, but that it should not be used for cooking or cleaning and that the safety measures followed in its sale and use in the United States should also be observed in Great Britain.

—— Ministry of Labor. *Nineteenth abstract of labor statistics of the United Kingdom. London, 1928. 220 pp. (Cmd. 3140.)*

The data contained in this issue of the abstract of labor statistics, the second published since the war, are divided into 14 main sections: Employment, unemployment, and unemployment insurance; wages and hours of labor; profit-sharing and labor copartnership; wholesale and retail prices and cost of living; strikes and lockouts; industrial accidents and diseases and workmen's compensation; trade-unions and other employees' associations; cooperative societies, friendly societies, and building societies; national health insurance; old-age pensions; poor-law relief; migration; and building plans approved. The figures have been summarized from statistics compiled by the Ministry of Labor and other Government departments.

—— —— *Report of an inquiry into apprenticeship and training for the skilled occupations in Great Britain and Northern Ireland, 1925–26. VII. General Report. London, 1928. 194 pp.*

A summary of the contents of this part of the report was given in the Labor Review for September, 1928 (p. 105).

—— —— London Advisory Council for Juvenile Employment. *A guide to employment for London boys and girls. London, 1928. 249 pp.; illus.*

INTERNATIONAL LABOR OFFICE.—*Studies and reports, Series D (wages and hours of work), No. 18: Wages and hours of work in the coal-mining industry. Geneva, 1928. xix, 279 pp.*

Summarized on page 98 of this issue.

JAPAN (TOKYO).—Municipal Office. Statistical Bureau. *Twenty-fourth annual statistics of the city of Tokyo. Tokyo, 1928. 1579 pp.*

A section on industry includes statistics of wages, 1921 to 1926.

NORWAY.—Statistiske Centralbyrå. *Lønninger, 1927. Oslo, 1928. 23 pp. (Norges Offisielle Statistikk, VIII, 51.)*

Changes in wages, taken from this report, are reviewed on page 105 of this issue.

STRAITS SETTLEMENTS.—Labor Department. *Annual report for the year 1927. Singapore, 1928. 30 pp.*

Contains data on Indian immigration; recruiting of labor; wages; number of Indians, Chinese, Javanese, and others employed by the Government and at various specified estates and other places of employment on January 1 and December 31, 1927; and fatal accidents to South Indians in 1927, by cause.

SWEDEN.—[Socialdepartementet.] Riksförsäkringsanstalten. *Olycksfall i Arbete, Åren 1918–1922. Stockholm, 1928. 204 pp.; charts.*

Report on industrial accidents in Sweden, 1918–1922.

UNION OF SOUTH AFRICA.—Office of Census and Statistics. *Official Yearbook, of the Union and of Basutoland, Bechuanaland Protectorate, and Swaziland No. 9, 1926–1927. Pretoria, 1928. xx, 1157 pp.; maps, charts, illus.*

Gives a description of the natural features of South Africa, and deals in detail with the social, economic, and industrial aspects of its development.

Unofficial

AMERICAN IRON AND STEEL INSTITUTE. *Annual statistical report, for 1927. New York, 75 West Street, 1928. 119 pp.*

Contains data on production in the iron and steel and allied industries with sections on imports and exports and prices. Production figures for Canada and certain other foreign countries are given.

AMERICAN MANAGEMENT ASSOCIATION. *Production Executives' Series No. 72: Training manual workers, by Russell N. Keppel. New York, 20 Vesey Street, 1928. 27 pp.*

AMERICAN TRADE UNION DELEGATION. *Soviet Russia in the Second Decade. Edited by Stuart Chase, Robert Dunn, and Rexford Guy Tugwell. New York, John Day Co., 1928. 374 pp.; charts.*

A collection of articles by the technical advisors who accompanied the American trade-union delegation to Russia in the summer of 1927. Among the various subjects treated by the individual authors are: Industry and the Gosplan; agriculture; the nature of the Russian Government; the Communist Party; Soviet finance; the trade-union movement; labor legislation and social insurance; wages and the material condition of the industrial workers; the consumers' cooperative movement; education; the common schools; the administration of justice; the transportation system; and foreign concessions in Russia.

ANTONELLI, ÉTIENNE. *Guide Pratique des Assurances Sociales. Paris, Payot, 1928. 229 pp.*

An exposition of the French law on social insurance which was enacted March 14, 1928.

BRADWIN, EDMUND W. *The Bunkhouse Man: A Study of Work and Pay in the Camps of Canada, 1903–1914. New York [Columbia University, Faculty of Political Science], 1928. 308 pp.; maps, illus.*

BRINTON, HUGH P. *Family and Child Welfare Studies in Pennsylvania, 1921–1926. Philadelphia, Committee on Philanthropic Labor, Philadelphia Yearly Meeting of Friends, December, 1927. 43 pp.*

A bibliography of studies and surveys, published and unpublished, relating to family and child welfare within the State of Pennsylvania, which were completed within the 6-year period January 1, 1921, to December 31, 1926, or which were in progress at the latter date.

COMMISSION SYNDICALE DE BELGIQUE. *Rapports Moral et Financier pour les Années 1926 et 1927. Brussels, 1928. 312 pp.*

This report of the Belgian Trade-Union Commission for 1926 and 1927 contains the proceedings of the various congresses held during the two years, accounts of the work of the trade-unions along different lines, the financial report, and various statistical reports.

COWAN, HELEN I. *British Emigration to British North America, 1783–1837. Toronto, University of Toronto, 1928. 275 pp. (University of Toronto studies, history and economics, Vol. IV, No. 2).*

The research for this first separate study of the subject as a whole, for the given period, covered not only the usual manuscripts and printed materials but also a previously unused and valuable source—the correspondence between 1817 and 1837 in the archives of the Colonial Department of Great Britain.

DELVOYE, J. *Les Meneurs et la Question des Salaires dans l'Industrie Textile. Paris, Dunod, 1928. 139 pp.*

A study of labor relations in the French textile industry with particular reference to the question of wages. The policies followed by the employers and workers in the textile industries of Roubaix-Tourcoing are cited as a sucessful method of solving these problems.

DUBLIN, LOUIS I. *Health and Wealth: A Survey of the Economics of World Health. New York, Harper & Bros., 1928. 361 pp.; charts.*

This collection of addresses covers the more important phases of public-health work with a view to showing how vital statistics may serve in the formulation of better health programs. The results attained in the effort to control the diseases which are among the more important causes of invalidity and death and the possibilities of prolonging human life are dealt with, and such questions as the vitality of our race stocks, the development of the family, and other phases of the population problem are also considered. The writer says that possibly this is an opportune time to drive home the lesson that life and health are our greatest possessions and that their preservation justifies much greater effort to reduce the losses to the community from preventable disease.

EMMERSON, H. C., AND LASCELLES, E. C. P. *Guide to the Unemployment Insurance Acts. London, Longmans, Green & Co. (Ltd.), 1928. 244 pp.*

Contains an outline of unemployment insurance legislation in Great Britain up to and including the 1927 act and an analysis of the present situation. An appendix gives the insurance acts, regulations, and orders, arranged under subject headings.

FREMANTLE, F. E. *The Health of the Nation. London, Philip Allan & Co. (Ltd.), 1927. 209 pp.*

This volume contains a general discussion of the problems of public health in England and Scotland and reviews the various measures such as education, social insurance, and care of mothers and children which have for their purpose the safeguarding of the health of the nation. Statistics of death rates and incidence of some of the more dangerous diseases are cited to show the measure of success which has been achieved. There is also a brief review of health services in the British colonies.

GENEVA INSTITUTE FOR INTERNATIONAL RELATIONS. American Committee. *Summaries of draft conventions and recommendations adopted by the International Labor Organization, 1919–1927. Geneva, 1928. 27 pp.*

GERMAN COMMERCE YEARBOOK, 1928. *Berlin, Struppe & Winckler [1928?]. 375 pp.*

The volume "aims to afford a comprehensive survey of the economic situation of Germany in 1926 and part of 1927."

GILLIN, JOHN LEWIS, AND OTHERS. *Social Problems. New York, Century Co., 1928. 534 pp.; maps, diagrams.*

This textbook on sociology is divided into four parts, under the following general heads: The nature of the social problem; problems of population; problems of the home and economic life; and problems of socialization.

IHRIG, KARL. *Internationale Statistik der Genossenschaften. Berlin, Struppe & Winckler, 1928. xxiv, 275 pp. (Veröffentlichungen der ungarischen Gesellschaft für Statistik No. 5 sz.)*

International statistics of cooperative societies. Tables are in German, French, and English.

INSTITUTE FOR GOVERNMENT RESEARCH. *The problem of Indian administration. Report of a survey made at the request of Hon. Hubert Work, Secretary of the Interior, and submitted to him February 21, 1928. Washington, 1928. 872 pp.*

Some of the findings of this survey, relating to the economic situation of the Indians, are reviewed on page 43 of this issue.

INTERBOROUGH RAPID TRANSIT CO. *vs.* WILLIAM GREEN, ET AL. *Brief for defendants. New York, Workers Education Bureau Press, 476 West Twenty-fourth Street, 1928. 479 pp.*

The first part of the brief sets forth the facts and circumstances of the case followed by the background facts, "the purpose being, first, to present the facts as to this particular labor dispute, and then to present that dispute, not as an isolated phenomenon, but as a part of a larger economic structure, whose stresses and strains caused this particular dispute to emerge." In his foreword to the volume, Mr. William Green expresses the opinion that this brief "is such an illuminating interpretation of the social and economic consequences of the proposed injunction that it is a distinguished contribution to information in this field."

LAMBERT, CHARLES. *La France et les Étrangers. Paris, Librairie Delagrave, 1928. 155 pp.*

A discussion of the immigration policy of France from the standpoint of the progressive decrease in the native population.

LEAGUE OF NATIONS. Economic and Financial Section. *International Statistical Yearbook, 1927. Geneva, 1928. 227 pp.*

Includes data on production, index numbers of wholesale and retail prices, unemployment, migration, and population by occupation groups.

METROPOLITAN LIFE INSURANCE CO. Policyholders' Service Bureau. *Report No. 76: Outdoor Recreation for Employees. New York [1928]. 20 pp.*

In this pamphlet the recreational needs of employees of different ages are discussed and examples given of the policies followed in communities and in industrial establishments in developing the type of recreation most favored by the employees.

NATIONAL CONFERENCE ON OUTDOOR RECREATION. *A report epitomizing the results of major fact-finding surveys and projects which have been undertaken under the auspices of the National Conference on Outdoor Recreation. Washington, 1928. 104 pp. (70th Cong., 1st sess., S. Doc. No. 158.)*

The report contains the results of various surveys, including municipal and county park systems; provisions in the different industries for the outdoor recreation of employees; training courses for recreation leaders provided by various types of educational institutions; State parks and the recreational use of State forests; recreation resources of Federal lands; and contributions of museums to outdoor recreation.

NATIONAL INDUSTRIAL CONFERENCE BOARD (INC.). *Industrial Lunch Rooms. New York, 247 Park Avenue, 1928. 65 pp.; plans.*

In this study covering several hundred firms there are descriptions of the different types of lunch-room installation and of the methods of operating them. Statistics of operating costs, and the distribution of lunch rooms by industry and by size of establishment are included and there are several floor plans of lunch rooms and lists of cafeteria equipment.

NATIONAL INDUSTRIAL CONFERENCE BOARD (INC.). *Wages in the United States, 1914–1927. New York, 247 Park Avenue, 1928. 168 pp.; charts.*

This volume, covering the years 1914 to 1927, follows the same general method of presentation as earlier volumes in the same series.

RUSSELL SAGE FOUNDATION. Library. *Bulletin No. 90: Cost and standards of living [bibliography]. New York, 130 East Twenty-second Street, August, 1928. 4 pp.*

TAO, L. K. *Livelihood in Peking: An analysis of the budgets of 60 families. Peking, China Foundation for the Promotion of Education and Culture, Social Research Department, 1928. 158, xxii pp.*

Reviewed on page 191 of this issue.

TREADWELL, C. A. L., and PARRY, E. S. *Workers' compensation in New Zealand. Christchurch, N. Z., 1927. xvii, 152 pp.*

Gives the text of the workers' compensation law, with a brief discussion of the principles involved, as illustrated by the leading New Zealand and English cases, with notes where necessary, calling attention to the differences between the New Zealand and the British acts.

VALK, WILLEM L. *The Principles of Wages. London, P. S. King & Son (Ltd.), 1928. 139 pp.*

VERBAND DER BUCHBINDER UND PAPIERVERARBEITER DEUTSCHLANDS. *Geschaftsbericht für das Jahr 1927. Berlin [1928?]. 251 pp.*

Report of activities of the German union of bookbinders and paper workers in the year 1927.